PATENT LISTING

<111> Friedrich, Timothy D.
Evans, Stephen S.
Jewell, Jean M.
Misher, Linda E.
Miller, Leslie J.
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<120> COMPOSITIONS AND METHODS FOR THE THERAPY AND DIAGNOSIS OF BREAST CANCER

<130> 210121.419C19

<140> US
<141> 2000-10-26

<160> 326

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<212> PRT
<213> Homo sapien

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Gly Arg Thr Phe Asp Asp Phe His Arg Tyr Leu Leu Val Gly Ile Gln
20 25 30
Gly Ala Ala Gln Lys Pro Ile Asn Leu Val Lys Ala Ile Glu Val Val
35 40 45

Lys Lys His Asp Phe Met Ile Gly Val Pro Leu His His Leu Glu Val
Ala Tyr Arg Ile Lys Thr Ile Ile Asp Leu Ala Ala Ile Val Asn Met
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<220>
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<222> (1)...(1080)
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<400> 3
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<213> Homo sapien

<220>
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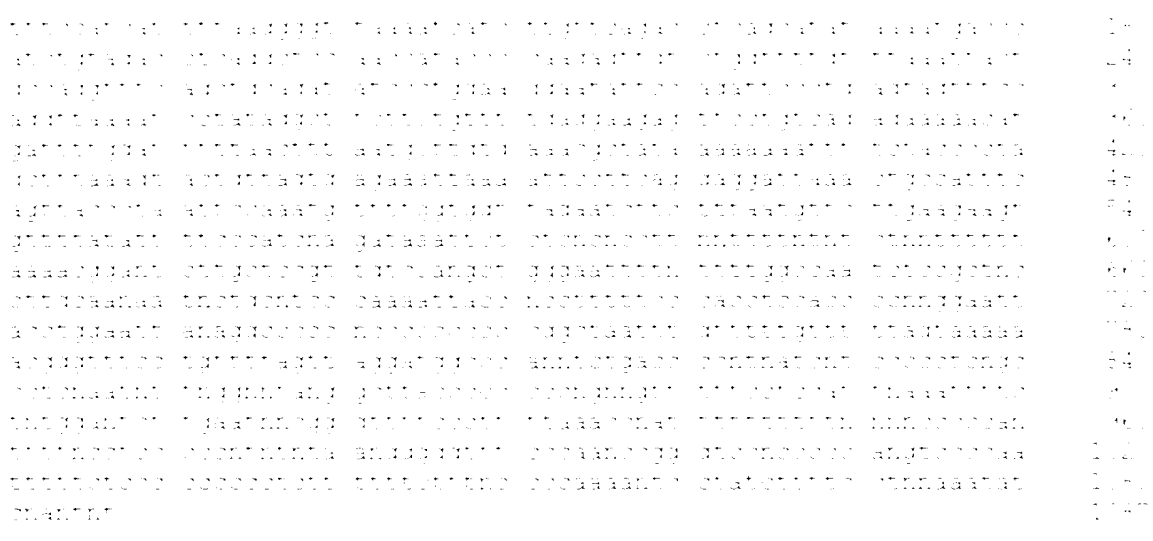

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<210> 6
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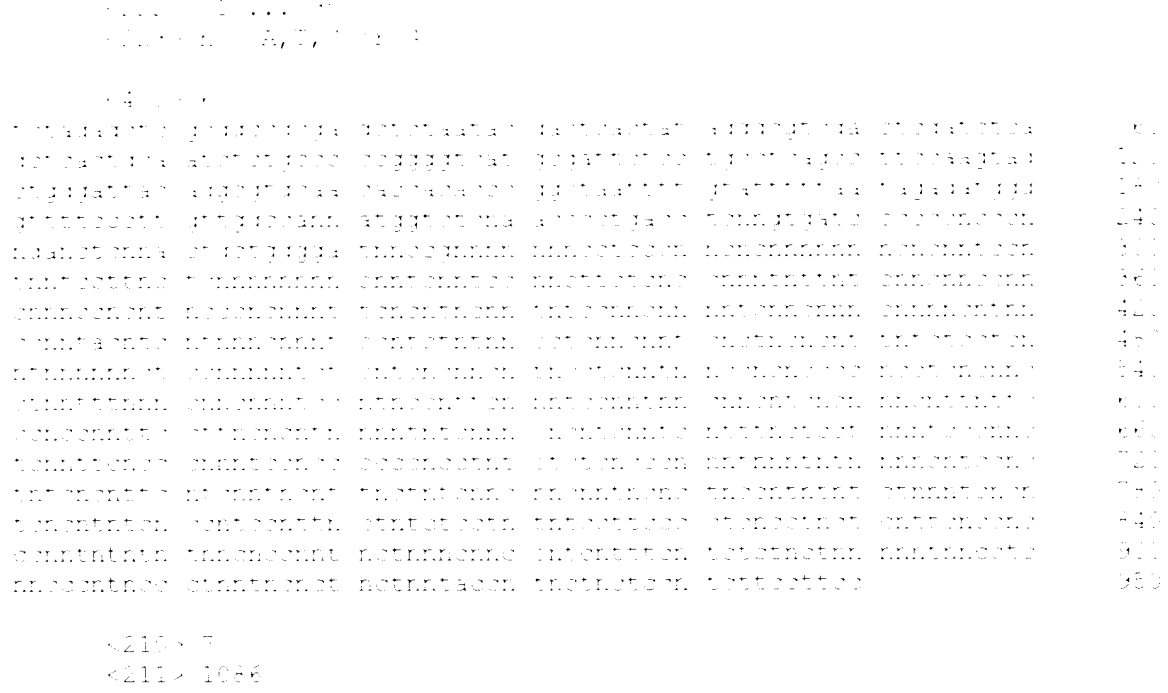
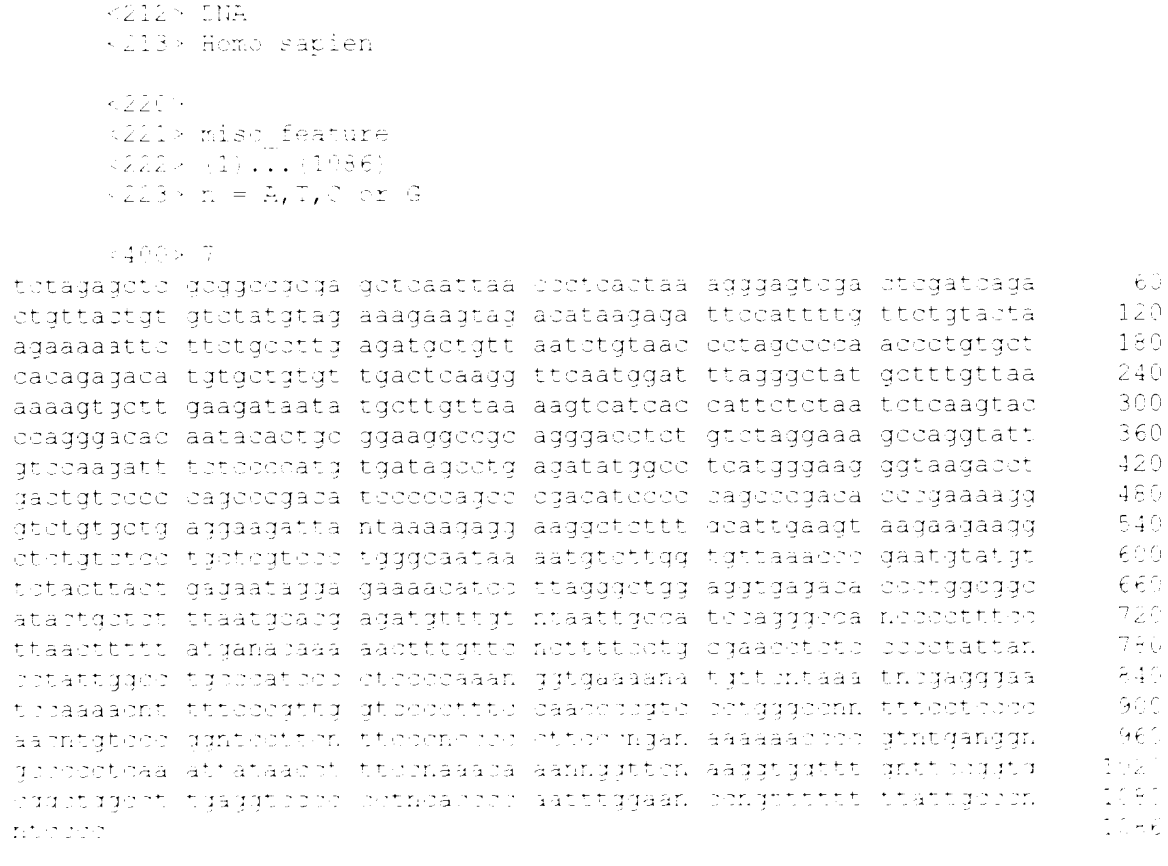
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature





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<213> H [illegible]

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gaaaaggggtc aaaaggagct gttgacagtc atcccaggtg ggccaatgtg tccagagtac 120
agactccatc agtgaggtca aagcctgggg ctttttcaga gaagggaggat tatgggtttt 180
ccaattatac aagtcagaag tagaaaqaag ggacataaac caggaagggg qtggaccact 240
catcaccgag agggacttgt gcctctcttca gtggtagtag agggcttact tcctccracc 300
acggttgcaa craagaggca atgggtgatg agcctacaag ggacatatcc gaggagacat 360
gggtgaccc taaqggagta ggctgttttt aaggcgttgc gactgggtga gggaaactct 420
cctttttttc agacagaagc agtacagggc gagttgaacc gtctaaggct ctgagggaaa 480
acagggtctg gttcaggaag acctttggag taaaattatg aatggttcat gaatgtagcc 540
atgggaaggg tttctcttgc cagaactagc catttgatca tttagtgaa actgatagg 600
taagcagga attcattcta ctaaccccca tagagtttca atattgtgaa gttcatttac 660
tctttaaggg ttcactcgat tgaatcttg gctatttaca ttttgttaaa ttcctaaaat 720
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<210> 9
<211> 1146
<212> DNA
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<223> n = A,T,C or G

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ccaattatac aagtcagaag tagaaaqaag ggacataaac caggaagggg qtggaccact 240
catcaccgag agggacttgt gcctctcttca gtggtagtag agggcttact tcctccracc 300
acggttgcaa craagaggca atgggtgatg agcctacaag ggacatatcc gaggagacat 360
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cctttttttc agacagaagc agtacagggc gagttgaacc gtctaaggct ctgagggaaa 480
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atgggaaggg tttctcttgc cagaactagc catttgatca tttagtgaa actgatagg 600
taagcagga attcattcta ctaaccccca tagagtttca atattgtgaa gttcatttac 660
tctttaaggg ttcactcgat tgaatcttg gctatttaca ttttgttaaa ttcctaaaat 720
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[illegible]

<210> 10
<211> 148
<212> DNA
<213> Homo sapiens

<400> 10
[illegible]

<210> 11
<211> 196
<212> DNA
<213> Homo sapien

<400> 11
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ctctacgaaa aaataaaaaa atgagcctgg tgtagtggca cacaccagct gaggagggag 180
aatcgagcct aggaga 196

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<211> 388
<212> DNA
<213> Homo sapien

<220>
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<222> (1)...(388)
<223> n = A,T,C or G

<400> 12
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<211> 14
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
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<223> n = A,T,C or G

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aaaatcatat ttcatatttt angctcgagg gttttacccg gttcctttct acactnnttn 180
aaacagtttt taagtcnttt ggaacaagat attttttctt tcctggcagc tttaaaaatt 240
atagcaaatt tgtgtctggg ggactgctgg tcactgtttc tcacagttgc aaatcaaggc 300
attgnaacc aannaaaaaa aattttttng tttanttga aattggacng gatnaangga 360
gtttggagcg gctgctgtat anagttttaa atggttatt gcacctcctt aagttgnact 420
tatgtgggag ggggnttttg natagaaagt ntttantcac anagtcacag ggactttnnt 480
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gaggcctttc tcttagaggg gggaactnct a 571

<210> 15
<211> 548
<212> DNA
<213> Homo sapien

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tcccccaccc gcattgaaan ttcacctttt aactgttcac ctaaacaaat tttacttttc 180
aagtnttttg ttcgttcnca ttactnttnt tttttttttt ttttttttgg agatggagtc 240
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tatatatata tttttttaat ttttttttgt ttttttttag agacagggtc tcactatgtt 420

[illegible]

<211> 17
<211> 286
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(286)
<223> n = A,T,C or G

<400> 17
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tgccttagcg gcggcgaagt caatgggcgt ctcaccctat ccttttgcca tggtggtggc 180
gatggcggct tcggcggcgt ttatgacccc ggtctcctcg ccggttaaca ccctggtgct 240
tggccctggc aagtactcat ttagcgattt tgtcaaaata ggcgtg 286

<210> 18
<211> 262
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(262)
<223> n = A,T,C or G

<400> 18

[illegible]

<211> 1...[illegible]
<223> n = A,T,C or G

<400> [illegible]
[illegible]

<210> 24
<211> 264
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(264)
<223> n = A,T,C or G

<400> 24
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ttaactttcc aatcgcatgg acatgttaga cttatttttc gttaatgatt ncnatttnta 180
ttaaattgna tttgacaaaat tggttnttat tatatcaatt tttggtattt gttgagtttg 240
acattatagc ttagtatgtg acca 264

<210> 25
<211> 376
<212> DNA
<213> Homo sapien

<220>
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<222> (1)...(376)
<223> n = A,T,C or G

<400> 25

[illegible]

<210> 26
<211> 372
<212> DNA
<213> Homo sapien

<220>
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<222> (1)...(372)
<223> n = A,T,C or G

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ggtcaaggtt gcatgagtca tgattgcgcc actgcactcc agcctgggtg acagactgag 180
accctgcctc aaaagaaaaa gaataggaag ttcagaaacc ctgggtgtgg ngcccagcaa 240
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tctggaggca gnagtaaggg cttccatcca gcatcacggn caacactgca aaagcacctg 360
tcctcgttgg ta 372

<210> 27
<211> 477
<212> DNA
<213> Homo sapien

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tgataatatg ggtccgtgct taatacaact gagacatatt tgttctctgt ttttttagag 180
tcacctctta aagtccaatc ccacaatggt gaaaaaaaaa tagaaagtat ttgttctacc 240
tttaaggaga ctgcagggat tctccttgaa aacggagtat ggaatcaatc ttaaataaat 300
atgaaattgg ttggtcttct gggataagaa attcccaact cagtgtgctg aaattcacct 360
gacttttttt gggaaaaaat agtcgaaaat gtcaatttgg tccataaaat acatgttact 420
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<210> 28
<211> 439
<212> DNA
<213> Homo sapien

<220>
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<222> (1)...(439)
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<400> 28
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[illegible]

<210> 29
<211> 620
<212> DNA
<213> Homo sapien

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<221> misc_feature
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atccnggcct gtgacccctt tgctttggcc attccccctt tttggaatgg ctnttttttt 600
cccatgcnca tncccnctta 620

<210> 30
<211> 100
<212> DNA
<213> Homo sapien

<400> 30
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<210> 31
<211> 762
<212> DNA
<213> Homo sapien

<220>
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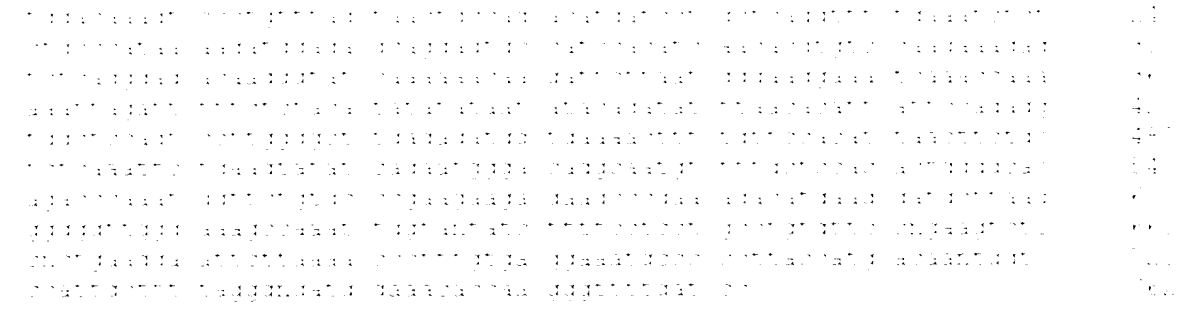

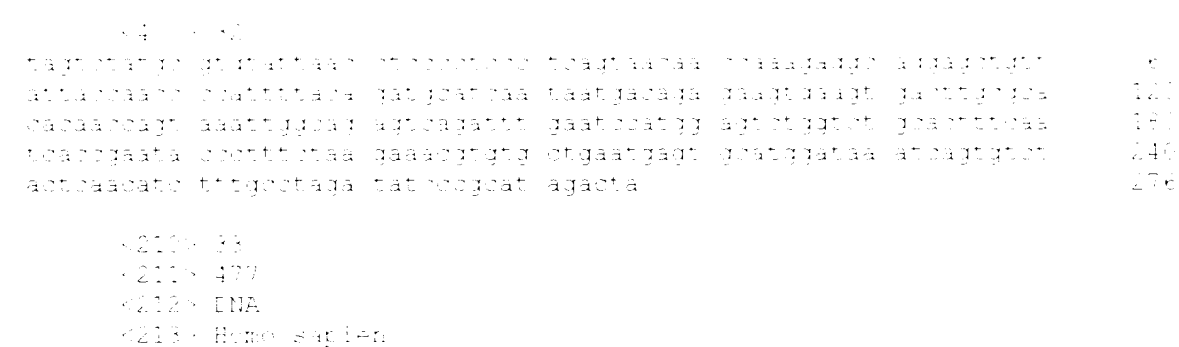

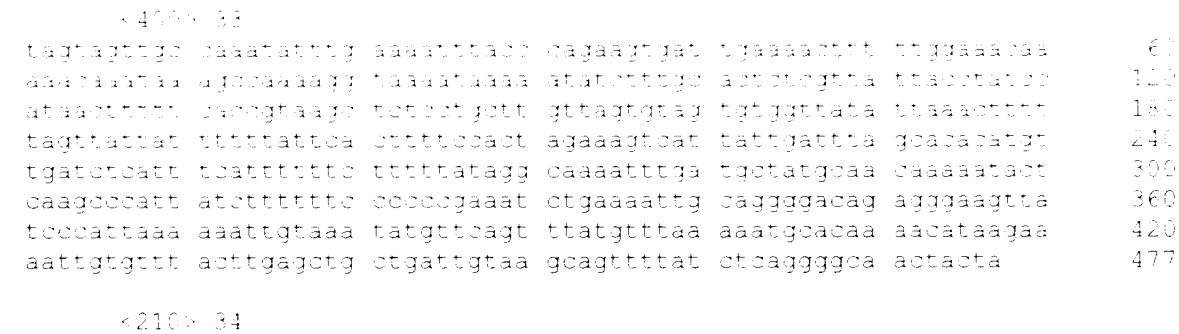

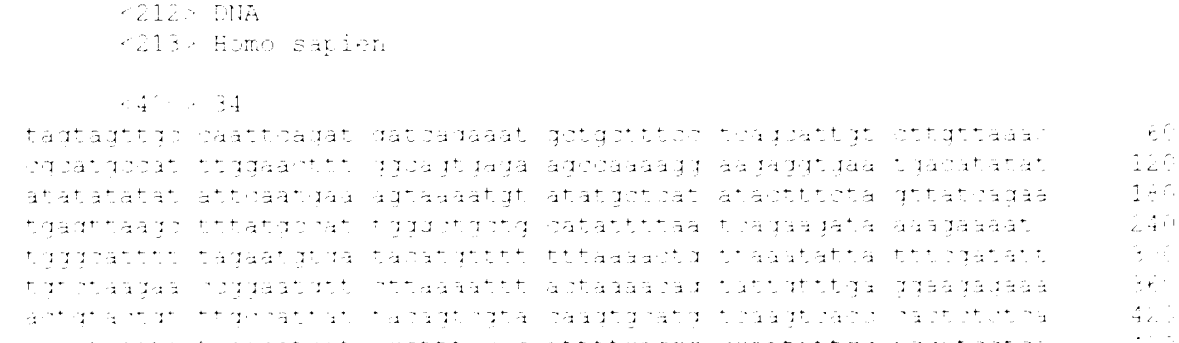

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<211> [illegible]
<212> DNA
<213> Homo sapien

<400> [illegible]
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<210> 36
<211> 583
<212> DNA
<213> Homo sapien

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agtgagattc catctcaaaa aaaaaaaaaa gaaaaagaaa agaaaaggaa aaaaagtata 180
aactcagtta aaacaaaatg atcattcttt taataagcaa gactaattta atctgtttat 240
ttaatcaaag ctatttgaat ttctgagtta ttggtgaaaa tacccatgta tttaatttag 300
ggtttttact tgtttcaaca tttgatgttc acagtttata aaatggttaa cuaggtaaat 360
tatgcataaa gaatcttata aactactaaa aatacaataa atataaatgg attaggtgtg 420
tggatggagt ttttgtgtaa tttaaaatct tgaagtcatt ttggatgctc attggttgtc 480
tggtaatttc cattaggaaa aggttatgat atggggaaac tgtttctgga aattgcggaa 540
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<210> 37
<211> 716
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
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<223> n = A,T,C or G

<400> 37

[illegible]

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aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 480
aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 540
aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 600
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aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 720
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aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 840
aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 900
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aaaaa 5585

<210> 38
<211> 585
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(585)
<223> n = A,T,C or G

<400> 38
tagtagttgc cgnnnacctn aaanttggaa agcatgatgt ctaggaaaca tantaaaata 60
gggtatgcct atgtgctana gagagatgtt agcattttaaa gtgcatantt ttatgtattt 120
tgacaaatgc atatncctct ataatccaca actgatttac aagctatttac aattaaaaag 180
tttgccccgg cgtggtgggc ggtgcctgan tcctgtaatc cnagcacttt gggaggccga 240
ggcacgcgga tcacgaggtc gggagttcaa gaccatcctg gctaanacgg tgaaagtccn 300
tctctactaa aaatacgaaa aaattagccn ggcgtggtgg cgggcgcctg tagtcccagc 360
tactcgggag gctgaggcan gagaatggcg tgaacccagg aggcggagct tgcagtgagc 420
gagatcgcgc tnctgcactc cagcctgggc gacagagcga agactccgtc tcaaaaaa 480
agaaaaaatac tactnatatt ttcnnacttta ttttaacttn canagaactn tctttggtta 540
tcnnnttacc attnatctna ccctnnnnct atagggnacn nnnaa 585

<210> 40
<211> 4

<211> DNA
<213> Homo sapiens

<400> 41

<211> 41
<211> 41
<212> DNA
<213> Homo sapiens

<400> 41
taagagggta catggagtaa gaatgtagtc acatctagag gttagataag tctgggttaj 60
gaaaaaaatc taagtatgta taagggtata ggtaacattt aaaagtaggg ctagctgata 120
ttatttagaa agaacacata cgtagagata agggcaaagg actaaaaaca gaggaactat 180
aatatttagt gatcacttcc attcttgata aaaatagtaa cttttaagtt agcttcaaga 240
aagatttttg gcaatgatta gtgtgtaaaa gttagttcta ttgggttttat attactaatt 300
ttgttttaag atcattgtta gtgcttaat aaagtcatgt tatatcaaaa gctctaaaac 360
attgtagcat gttaaaatgtc acaatatatt taccatttgt tgtatatggc tgtacctct 420
cta 423

<210> 42
<211> 527
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(527)
<223> n = A,T,C or G

<400> 42

tctcctaggc taatgtgtgt gtttctgtaa aagtaaaaag ttaaaaattt taaaaataga 60
aaaaagctta tagaataaga atatgaagaa agaaaatatt tttgtacatt tgcacaatga 120
gtttatgttt taagctaagt gttattatca aagagccaaa aagggttttaa aaattaaaac 180
gtttgtaaag ttatagtacc cttatgttaa tttataattg aagaaagaaa aacttttttt 240
tataaatgta gtgtagccta agcatacagt atttataaag ttgtggcagtg ttcaataatg 300
tcctaggcct tcacatttac ttactgactt acccagagca acttccagtc ctgtaagctc 360
cattcctggt aagtgcccta tacaggtgca ccatttattt tacagtattt ttactgtacc 420
ttctctatgt ttccatatgt tttgatatac aaatacccact ggttactatn gcccnacagg 480
taattctagt aacagggcct gtatatgttt ggtancccta ngaaaga 527

<210> 43
<211> 331
<212> DNA
<213> Homo sapiens

<211> 44
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(44)
<223> n = A,T,C or G

<400> 44
ggcttagtaa ttgccattgc gagtgcttgc tcaacgatca ttgaacatgg cggattgtct 60
agatttaacg gattttgagt ttaccagcaa agcgaacgaa gcgcggccca gagaattatg 120
ggttgggttg ctttgaaaag atggaaatcc tgtagggcta gtcagaaaag cctttcttgc 180
gaacagttgg ttttcgggcg aacgctcatc aagatgccca ttgtaaaggc tagcgtgtat 240
ttgggagagc ctgataggct gtcttttgat gatgtttgtg cttgtacagt cagaaaagat 300
atgcaaagca agtcgtgaac tagacgtcaag cttcgtgagc aaattattgt agactcctac 360
ttatattgtg agtaatgata gccaaggtcg gggacttttc gattaaggtg gtttgtattt 420
tcgcggatga tcttagggag aaagamctga tggctagttt tatagtgtga actaatcagt 480
cgaattcgag tagactgccc gcgttcatca attggatccc anntcgtcac tagttgatgt 540
catasgttga gtcwtgtaca ntgtcct 567

<211> 46
<212> DNA

<211> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(480)
<223> n = A,T,C or G

<400> 46
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn   60
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn   120
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn   180
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn   240
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn   300
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn   360
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn   420
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn   480

<210> 47
<211> 480
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(480)
<223> n = A,T,C or G

<400> 47
tgccaacaag gaaagtttta aatttcccct tgaggattct tggtgatcat caaattcagt   60
ggtttttaag gttgttttct gtcaaataac tctaacttta agccaaacag tatatggaag   120
cacagataka atattacaca gataaaagag gagttgatct aaagtaraga tagttggggg   180
ctttaatttc tggaacctag gtctcccccat cttcttctgt gctgaggaac ttcttggaag   240
cgggattcct aaagttcttt ggaagacagt ttgaaaaccn ccatgttgtt ctcagtacct   300
ttatttttaa aaagtaggtg aacattttga gagagaaaag ggcttggttg agatgaagtc   360
ccccccccnn ctttttttct ttttagctga aatagataan ctatgttnaa rgaarggatt   420
attatttanc atgccaytar scacatncnc tttgatgggr nyctccstac ccrccttaag   480

<210> 48
<211> 541
<212> DNA
<213> Homo sapien

<400> 48
aaaaaaaaaa aaaaggaaat ttttgcttta ttaattcgtt gtggctagtc tttttcttct   60
tgtttaaaat taaaaaaaat taaaaaaaat ctttttttct ttttaaatgt ttttaaatgt   120

[illegible]

<210> 48
<211> 454
<212> DNA
<213> Homo sapiens

<400> 48
[illegible]

<210> 50
<211> 463
<212> DNA
<213> Homo sapiens

<400> 50
aagagggtac taaaaaataag aaaaaggaaa gaaagaaaaa cgaattgtat aaggctttct 60
gctgcataca gttttttttt tttaaataaa tgctgccaac aaatgttttt gcattcacac 120
caattgctgg ttttgaaatc gtactcttca aaggtatttg tgcagatcaa tccaatagtg 180
atgcccgtta ggttttgtgg actgcccacg ttgtctacct tctcatgtag gagccattga 240
gagactgttt ggacatgcct gtgttcatgt agccgtgatg tccgggggcc gtgtacatca 300
tgttaccgtg gggtggggtc tgcattggct gctgggcata tggctgggtg cccatcatgc 360
ccatctgcat ctgcataggg tattgggggg tttgatccat atagccatga ttgctgtggt 420
agccactgtt catcattggc tgggacatgc tgttacccct tta 463

<210> 51
<211> 399
<212> DNA
<213> Homo sapien

<400> 51
cttcaaactt ccaaaagtgct gggattacag gactgagcca ccacgcctcag cctaaggctt 60
ttttcactta ctctctaagc gatctaccat agtgatgagg ggctaaagag cagtgcaatt 120
tjattaagaat aatgtaactt agattttatta attaaaaatt tttcttaatc atgttggttc 180
taaatttatt aagaatatgg acttacttag agaatgagtt tgattttaag aatttcatct 240
ttgacttttt ctattaatct gaaagtatcg agaatataaa tattttattt aaatgaacta 300
tttgagatta ttaattttta aaagtcttta tatatgaaag tttattgtaa aatgtaaagt 360
aaaaagtaat ttaatttatat catgatgtct ttgaatttt 399

<211> 44
<212> DNA
<213> Homo sapiens

<400> 43
ttcgggtgat gcctcctcag gctacagtga agactggatt acagaaaggt gccaccgaga 60
ttttagattt ctgtaaaact ctaaaagaaaa ggagtcctcc ctcaactgat gtagaaattga 120
ctaattcagt atacttgatac atttctgact tcgattttag aggaattagt gaccttgcat 179

<210> 44
<211> 112
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(112)
<223> n = A,T,C or G

<400> 44
ttcgggtgat gcctcctcag gctacatcat natagaagca aagtagaana atcnngtttg 60
tgcatttttc nacanacaaa attcaaatga ntggaagaaa ttgtganagt at 112

<210> 45
<211> 229
<212> DNA
<213> Homo sapiens

<400> 45
tagattttgg cttctgagaaa cttaaatagat aattaaaagga caaatttaaa agtgattgac 60
aaattagtat atcaaaatgc caatacaaat atacaaaagga attagtgctc atcatatatg 120
gaatWatgta aattaaaaac atactgagaa acttactatc ccacctagaa tagtatacat 180
cttaaaagtc tttcaaaatc aagtcttttc aagtcaaatg gatca 229

<211> 54

<211> 14
<212> DNA
<213> Homo sapien

<400> 57
aaaaattttac tatttaaaaa ttaaaaaaaa ttttaaaaaa aaaaaaaaaa aaaaaaaaaa
aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa
aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa
aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaa

<210> 58
<211> 211
<212> DNA
<213> Homo sapien

<400> 58
gttcgaaagt gaacgtgtag gtagcgggat ctacaaattg ggaactgtca aagacgaatt 60
aaatgattcg gatcaattca atgtgactga ggaaaacact gaaggtgaag aacatcatcc 120
agtggcagac actgaaaata agaagaatga agttgaagag gtaaaagagt agggtctaaa 180
agagatgact ttggatgggt gttaaatggc t 211

<210> 59
<211> 208
<212> DNA
<213> Homo sapien

<400> 59
gctcctcttg ccttaccaac tttgcaccca tcatcaacca tgtggccagg tttgcagccc 60
aggctgcaca tcagggggct gcctgcgcaat acttcatgct gttgctgctg actgatggtg 120
ctgtgacgga tgtggaagcc acacgtgagg ctgtggtgcg tgcctcgaac ctgccccatgt 180
tagtgatcat tatgggtggt aaaatggct 208

<210> 60
<211> 171
<212> DNA
<213> Homo sapien

<400> 60
agcaatttac aaccaatagt aaaattctag tcaaaattca aattcttcca taaaaatatt 60
aaaaatgac aaaagttggc aatagtttct tcatttttca aattcttata gtattttatg 120
ttaatgttac agattttctc aactgaataa agtttttaaa gtaaaatgag t 171

<211> 41
<212> DNA

<211> DNA
<213> Homo sapien

<211> 114
<212> DNA
<213> Homo sapien

<400> 62
agagggtaca tatgcaagca tatatacagc agctagtgca ctcagaggaa tttcatcaag 60
gccatttaat caaataagtg tagagtcaag gctcaaccca ggtgtgaggg attccagttc 120
ctaagctcct tactggtacc ctctt 145

<210> 63
<211> 297
<212> DNA
<213> Homo sapien

<400> 63
tgcactgaga ggaatttaaa tggtttatgc caaagaacaa accagtcctc ttcagcttaa 60
cttatttgtt tttgggtagc taagccatgt agagggcgat taggcagtag atggtccctc 120
ccacagtcag ggcgatggtg gtcnggctaa gcatttggtc aggcaggctt cgtttcaggt 180
agacggccac acatcagctt tctggaaaaa ctttgtagcc tctggagctt tgttttttcc 240
agcataatca tacactgtgg aatcggaggt cagtttagtt ggtaaggcaa gaggagc 297

<210> 64
<211> 300
<212> DNA
<213> Homo sapien

<400> 64
gcactgagag gaacttccaa tactatgttg aataggagtg gtgagacagg gcatccttgt 60
cttgtgcggg ttttcaaagg gaatgcttcc agcttttgcc cattcagtat aatattaaag 120
aatgttttac catttttgtt cttgcctgtt ttttcngtgtt tttgttggtc tcttcattct 180
ccatttttag gcttttacat gttaggaata tatttcttttt aatgatactt tacctttgat 240
atcttttgtg agactctact catagtgtga taagcactgg gttggtaagg caagaggagc 300

<210> 65
<211> 273
<212> DNA
<213> Homo sapien

<400> 65

[illegible]

<210> 66
<211> 144
<212> DNA
<213> Homo sapiens

<400> 66
[illegible]

<210> 67
<211> 137
<212> DNA
<213> Homo sapien

<400> 67
gcactgagag gaacttctag aaagtgaaag tctagacata aaataaaata aaaatttaaa 60
actcaggaga gacagcccag cacggtggct cacgcctgta atcccagaac tttgggaggc 120
tgaggaggca tcacccg 137

<210> 68
<211> 137
<212> DNA
<213> Homo sapien

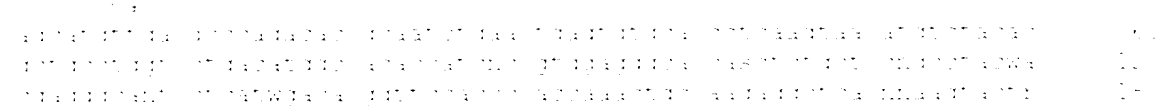
<400> 68
gcactgagag gaacttctag aaagtgaaag tctagacata aaataaaata aaaatttaaa 60
actcaggaga gacagcccag cacggtggct cacgcctgta atcccagaac tttgggaggc 120
tgaggaggca tcacccg 137

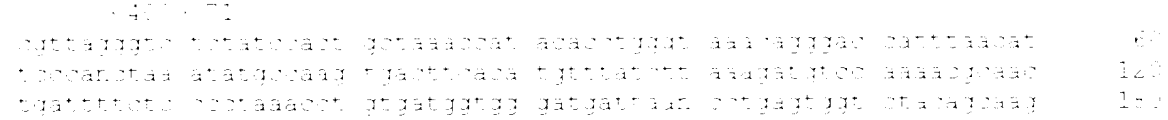
<210> 69
<211> 137
<212> DNA
<213> Homo sapien

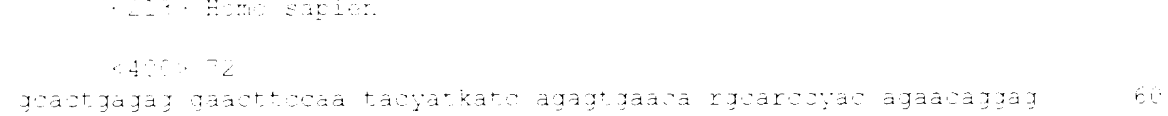
<400> 69
cgggtgatgg ctcctcaggc tgtatttttga agactatcga ctggacttct tatcaactga 60
agaatccttt aaaaatacca gttgtatttat ttctacttgt caaaatccat ttcaaaatgtt 120
gaagttctct tcagtgc 137

<210> 70
<211> 22
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature







<211> 74
<212> DNA
<213> Homo sapien

<400> 74

<211> 77
<212> DNA
<213> Homo sapien

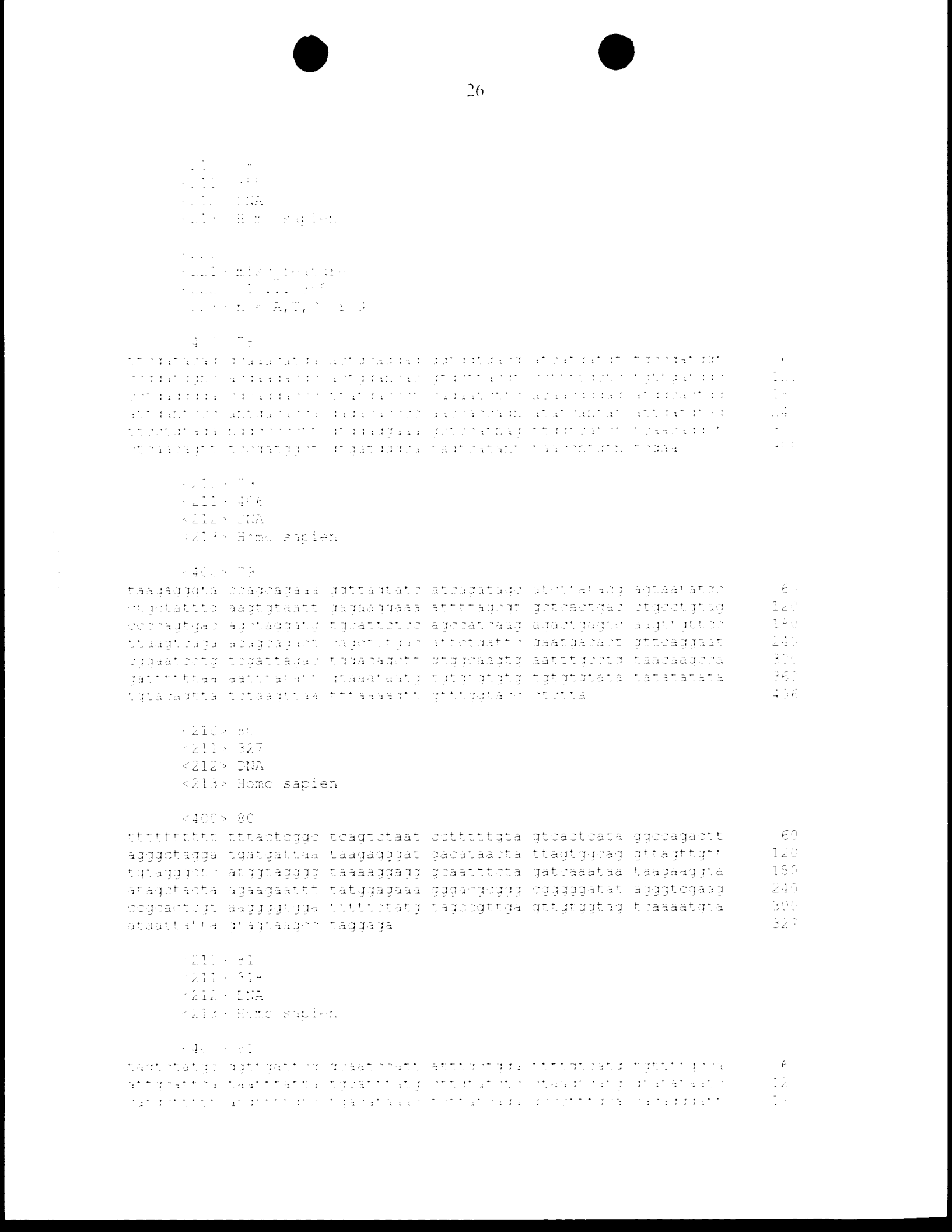
<400> 75
gcactgagag gaactttcac attcactgag aaatgcatgt tcacaaggac tttagtctgg 60
aactcagttt ctgagttcca attctgattc agttgtttac cagctacaca acttaagcca 120
agtcagataa cctttagcttc ctcatatgca aaatgagaat gaaaagtact catggctgaa 180
ttgttttgag gatttagaaaa atatctggca tttagttaaa attcaaattg tatttaattt 240
cactctttta aatttaaaca atagggattt tagtgttgga attttcagaca tcaataaatg 300
gagtggatag agacctt 317

<210> 76
<211> 244
<212> DNA
<213> Homo sapien

<400> 76
cgttagggtc tctatcgact gccactactg atcaaaactct atttatttaa ttatttttat 60
catactttaa gttctgggat acacgtgcag catgcgcagg tttgttgcat aggtatacac 120
ttgccatggt gattttgctgc acccatcagt gcatcatcta cattaggtat ttctctaaat 180
gctatttcct cgctagccgc ttatacccgg aacaggctct agtgtgtgaa gttcctctga 240
ttta 244

<210> 77
<211> 254
<212> DNA
<213> Homo sapien

<400> 77



<211> 406
<212> DNA
<213> Homo sapien

<400> 79
taaaaggata ccagcagaaa gattaattat atcagataac atcttataca aataaatatc 60
ctgctatttg aagtgtaatt gagaagaaaa attttagcct gctcactgaa ctgcctgtag 120
cctcagtgac agttaggatg tgcattctac agccatcaag agactgagtc aagttgttcc 180
ttaagtcaga agagcagacc tagctcttac atttctgatt gaaatgacat gttcaggaat 240
cgaaatccta tgattaaaat tgcacagctt gtaggcaact aatttgccta taacaagcca 300
gatttttaaa aatttatatt ttaaataatg tgtgtgtgtg tgtgtgtata tatatatata 360
tgtatattta tctaaatttaa tttaaaagct gttttgtaac ttttta 406

<210> 80
<211> 327
<212> DNA
<213> Homo sapien

<400> 80
ttttttttct tttactcggc tcagtctaat cctttttgta gtcactcata ggccagactt 60
agggctagga tgatgattaa taagagggat gacataacta ttagtggcag gttagttgtt 120
tgtagggcct atggtagggg taaaaggagg gcaatttcta gatcaaataa taagaaggta 180
atagctacta agaagaattt tatggagaaa gggatgcgtg cgggggatat agggtcgaag 240
ccgcactcgt aaggggtgga ttttttctat gtagctgttga gttgtggtag ttaaaatgta 300
ataattatta gtagtaagct taggaga 327

<210> 81
<211> 316
<212> DNA
<213> Homo sapien

<400> 81

<211> 44
<212> DNA
<213> Homo sapien

<400> 43
agccatttac cacccatcca caaaaaaaaa aaaaaaaaaa aaaaatatca atgaataaaa 60
atagacttta aacaaaaagg aacatttgat ggcctgaaaa gccatcacca g 111

<210> 84
<211> 224
<212> DNA
<213> Homo sapien

<400> 84
tcgggtgatg cttcctcagg ccaagaagat aaagcttcag acccctaaca catttccaaa 60
aaggaagaaa ggagaaaaaa gggcatgatc cccgttccga agggtcaggg aggaggaaat 120
tgaggtggat tcacgagttg cggacaactc ctttgatgcc aagcgaggtg cagccggaga 180
ctggggagag cgagccaatc aggttttgaa gttcctctca gtgc 224

<210> 85
<211> 348
<212> DNA
<213> Homo sapien

<400> 85
gcactgagag gaacttcgtt ggaaacgggt ttttttcatg taaggctaga cagaagaatt 60
ctcagtaact tcttgtgtgt gtgtgtattc aactcacaca gttgtaacgat cctttagaca 120
gagcagacct gtaacacttc twttgtggaa tttgtaaagt gagatttcag scgctttgaa 180
gtcaaaggta gaaaaggaaa tatcttccta taaaaactag atagaatgat tctcagaaac 240
tcctttgtga tgtgtgtgtt caacttcaga agttttacct ttwttttcat agaagtactt 300
aggaaatact ctgttttgaa actttgcaca tgatagagga ccttaatt 348

<211> 76
<212> DNA
<213> Homo sapien

[illegible]

<210> 87
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<400> 129
ccgaagagg aagctagagg aata 24

<210> 130
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<220>
<223> Predicted Th Motifs (B-cell epitopes

<221> VARIANT
<222> 1 ... 22
<223> Xaa = Any Amino Acid

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1 5 10 15
Val Gln Gly His Asp Glu
20

<210> 133
<211> 23
<212> PRT
<213> Artificial Sequence

<220>
<223> Predicted Th Motifs (B-cell epitopes

<400> 133
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1 5 10 15
Thr Pro Phe Asp Leu Ser Ala
20

<210> 134
<211> 4

<211> 137
<212> PRT
<213> Artificial Sequence

<220>
<223> Predicted HLA A2.1 Motifs (T-cell epitopes)

<400> 136
Tyr Leu Leu Val Gly Ile Gln Gly Ala
1 5

<210> 137
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> Predicted HLA A2.1 Motifs (T-cell epitopes)

<400> 137
Gly Ala Ala Gln Lys Pro Ile Asn Leu
1 5

<210> 138
<211> 9
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<220>
<223> Predicted HLA A2.1 Motifs (T-cell epitopes)

<221> VARIANT
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<223> Xaa = Any Amino Acid

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Asn Leu Ser Lys Xaa Ile Glu Val Val
1 5

<210> 139
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> Predicted HLA A2.1 Motifs (T-cell epitopes)

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<210> 140
<211> 9
<212> PRT
<213> Artificial Sequence

<400> 138
His Leu Met Met Ala Tyr Arg Ile Tyr

<210> 139
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> Predicted HLA A2.1 Motifs T-cell epitopes.

<400> 139
Asn Leu Ala Phe Val Ala Met Ala Ala
1 5

<210> 140
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> Predicted HLA A2.1 Motifs T-cell epitopes.

<400> 140
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1 5

<210> 141
<211> 9388
<212> DNA
<213> Homo sapien

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attcttctgc ctttgagatgc tgttaatctg taaccctagc cccaacccctg tgctcacaga 180
gaaatgtgct gtgttgactc aaggttcaat ggatttaggg ctatgctttg ttaaaaaagt 240
gcttgaagat aatatgcttg ttaaaagtca tcaccattct ctaatctcaa gtaccccaggg 300
acacaatata ctgcggaagg ccgcagggac ctctgtctag gaaagccagg tattgtccaa 360
gatttctccc tatgtgatag tctgagatat ggcttcatgt gaagggtaag agctgactgt 420
ccccagccc gagatcccca agccggacat ccccagccc gaccactgga aagggtctgt 480
gctgaggagg attagtaaaa gaggaaggcc tcttttgcagt tgaggtaaga ggaaggcatc 540
tgtctcctgc tcgtcccctgg ccaatagaat gtcttgtgtc aaaatccgat tgtatgttct 600
acttactgat atagggagaaa atatcctcta ggcttaagct gagacatgct gtggcaatta 660
ctgtcctttt atgcaccgag atgttttgtat aagttcatat tatgccatag tacttttctt 720
taaatttatt tatgatatag agacttttgt tcaccttttc ctgtgtgacc tcttcccagt 780
atttcctcat tggcctgcca tcccccccct ctcgagatgg ttagagtaat gatcaataaa 840
tactgagtta atcaaaaaaa aaaaaaaaaa gtaggtcttt cttttttttt ggtcggtctc 900
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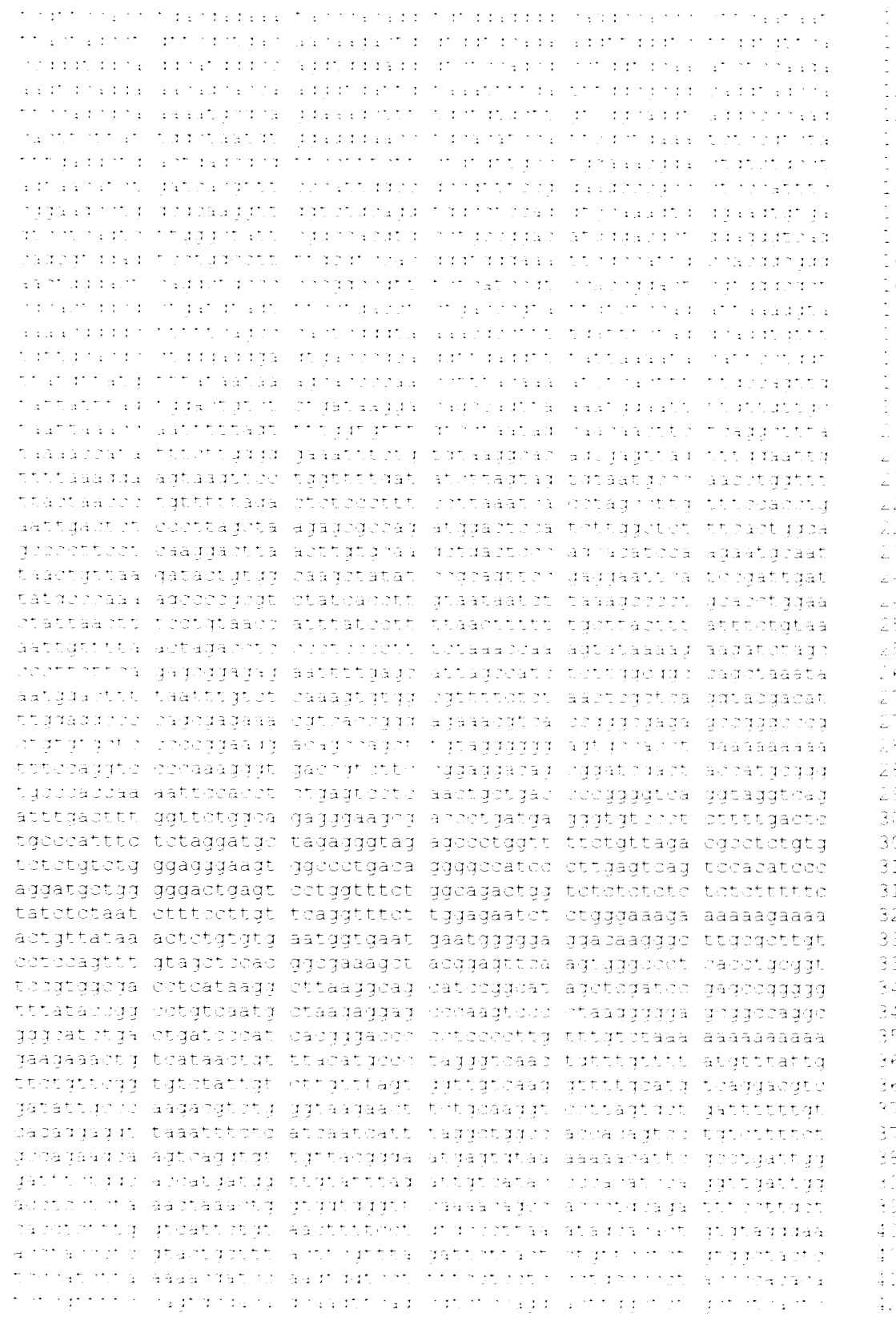

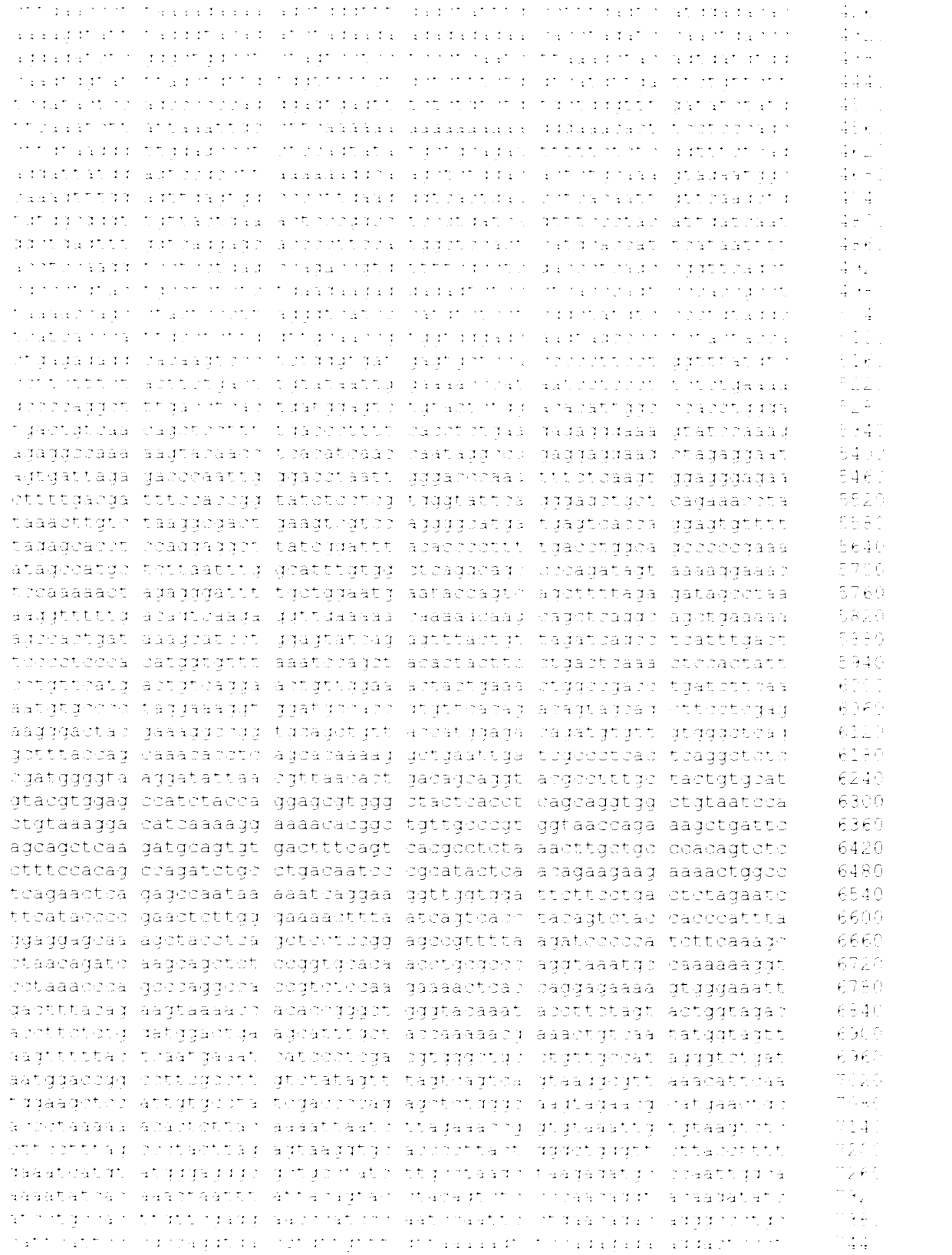

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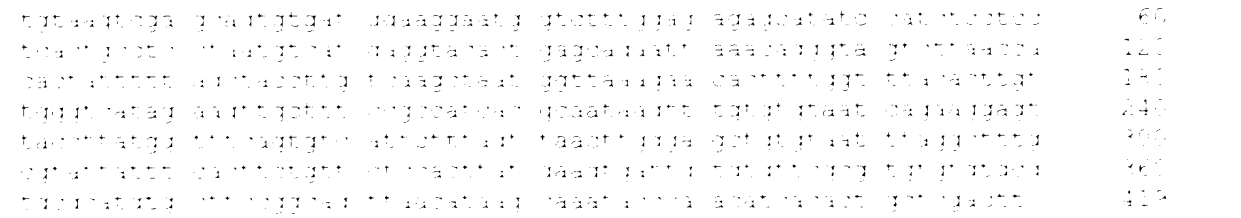
<212> DNA
<213> Homo sapien.

<400> 142



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<212> DNA
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<400> 143

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<211> 144
<212> DNA
<213> Homo sapiens

<400> 144
[illegible]

<210> 145
<211> 111
<212> DNA
<213> Homo sapiens

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atatatttta aacaaaaagg aacatttgct ggcttaaaa ctcatcagct g 111

<210> 146
<211> 546
<212> DNA
<213> Homo sapiens

<400> 146
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ttttaaatgc tgaaagttac tataagaaag ctttggcttt ggatgagact tttaaagatg 120
cagaggatgc tttgcagaaa cttcataaat atatgcaggt gattccttat ttcctcctag 180
aaatttagtg atatttgaaa taatgcccaa acttaatttt ctcctgagga aaactattct 240
acattactta agtaaggcat tatgaaaagt ttcttttttag gtatagtttt tcctaattgg 300
gtttgacatt gcttcatagt gcctctgttt ttgtccataa tcgaaagtaa agatagctgt 360
gagaaaacta ttacctaaat ttggtatgtt gttttgagaa atgtccttat agggagttca 420
cctggtggtt tttaaattat tgttgctact ataattgagc taaattataa aacctttttg 480
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cttttc 546

<210> 147
<211> 579
<212> DNA
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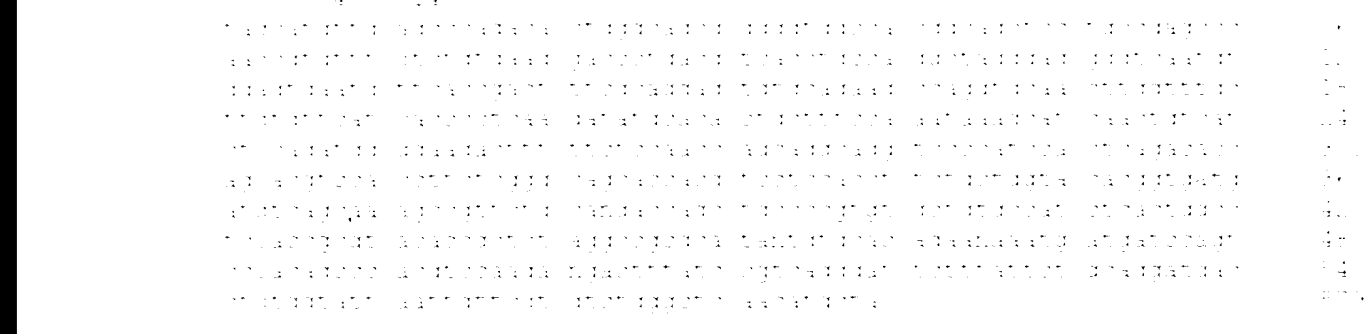
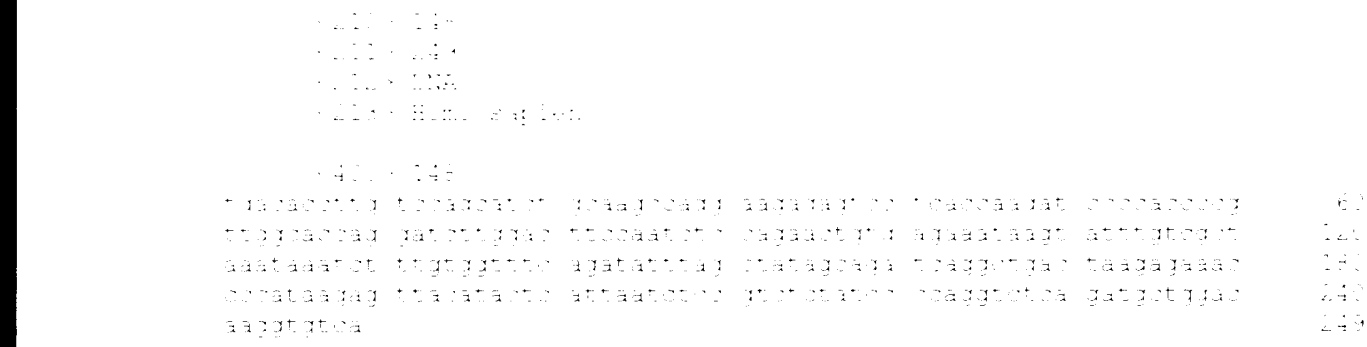
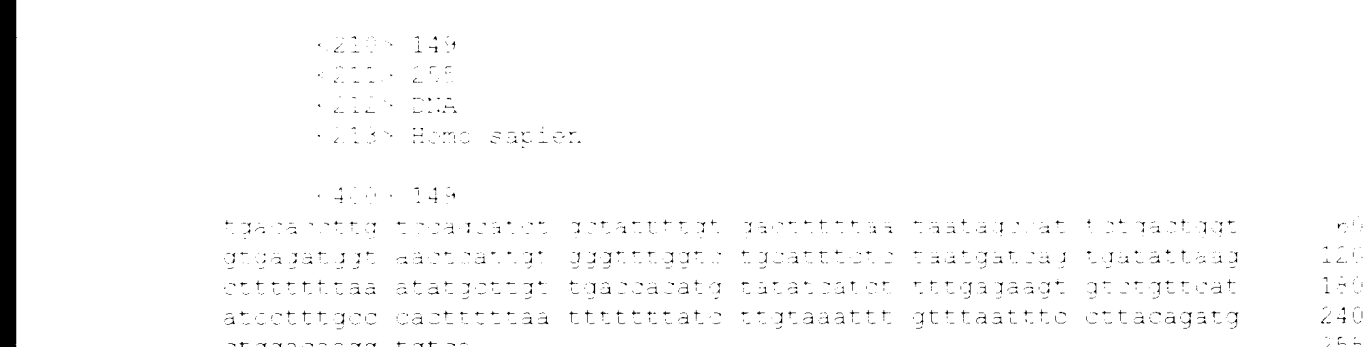
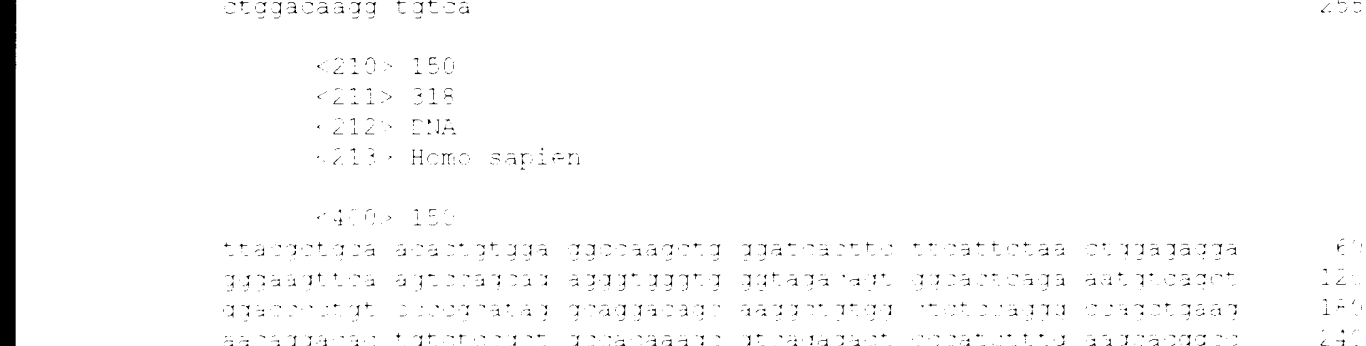
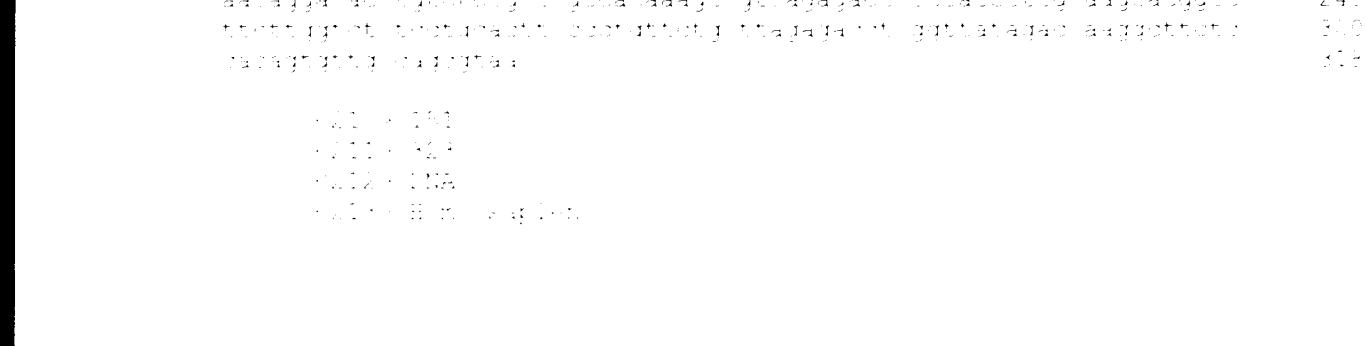
<223> n = A,T,C or G











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<210> 152
<211> 511
<212> DNA
<213> Homo sapien

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ggagagaggt gtagttttga gggttgtaaa gacttaggat ggagttggtg ggtgtggtta 120
gtctctaagg ttgatttttgt tcataaaatt tatgcctgta atgcattgct tgcctcaccc 180
tggtccaaaa cttagtgaac accttaaaaa ttctgtcttc ttgttctcca aacttctttt 240
gaggatttcc tcagattgtc tatattcaga tcgaaggcag ttggtaaacc agatgcaatc 300
cagaggttca g 311

<210> 153
<211> 332
<212> DNA
<213> Homo sapien

<400> 153
caagattccc taggctgacc aggaggctat tcaagatctc tggcagttga ggaagtctct 60
ttaagaaaat agtttaaaca atttgttaaa atttttctgt cttacttcat ttctgtagca 120
gttgatatct ggctgtcctt tttataatgc agagtgggaa ctttccctac catgtttgat 180
aaatgttgtc caggctccat tgccaataat gtgttgtcca aaatgcctgt ttagttttta 240
aagacggaac tccacccttt gcttggtctt aagtatgtat ggaatgttat gataggacat 300
agtagtagcg gtggtcagcc tatggaatct tg 332

<210> 154
<211> 345
<212> DNA
<213> Homo sapien

<220>
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<222> (1)...(345)
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<400> 154

[illegible]

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<211> 406
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aggtgggctt ggggtgagtg ggtgggggaa gtgtgtgtgc aaaggggtg tnaatgtnta 180
tgcgtgtgag catgagtgat ggctagtgtg actgcatgtc agggagtgtg aacaagcgtg 240
cgggggtgtg tgtgcaagtg cgtatgcata tgagaatatg tgtctgtgga tgagtgcatt 300
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gagtgtgcat ggaacactca ntgtgtgtgt caagtggccn ancgtc 406

<210> 157
<211> 206
<212> DNA
<213> Homo sapien

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<223> n = A,T,C or G

<400> 157
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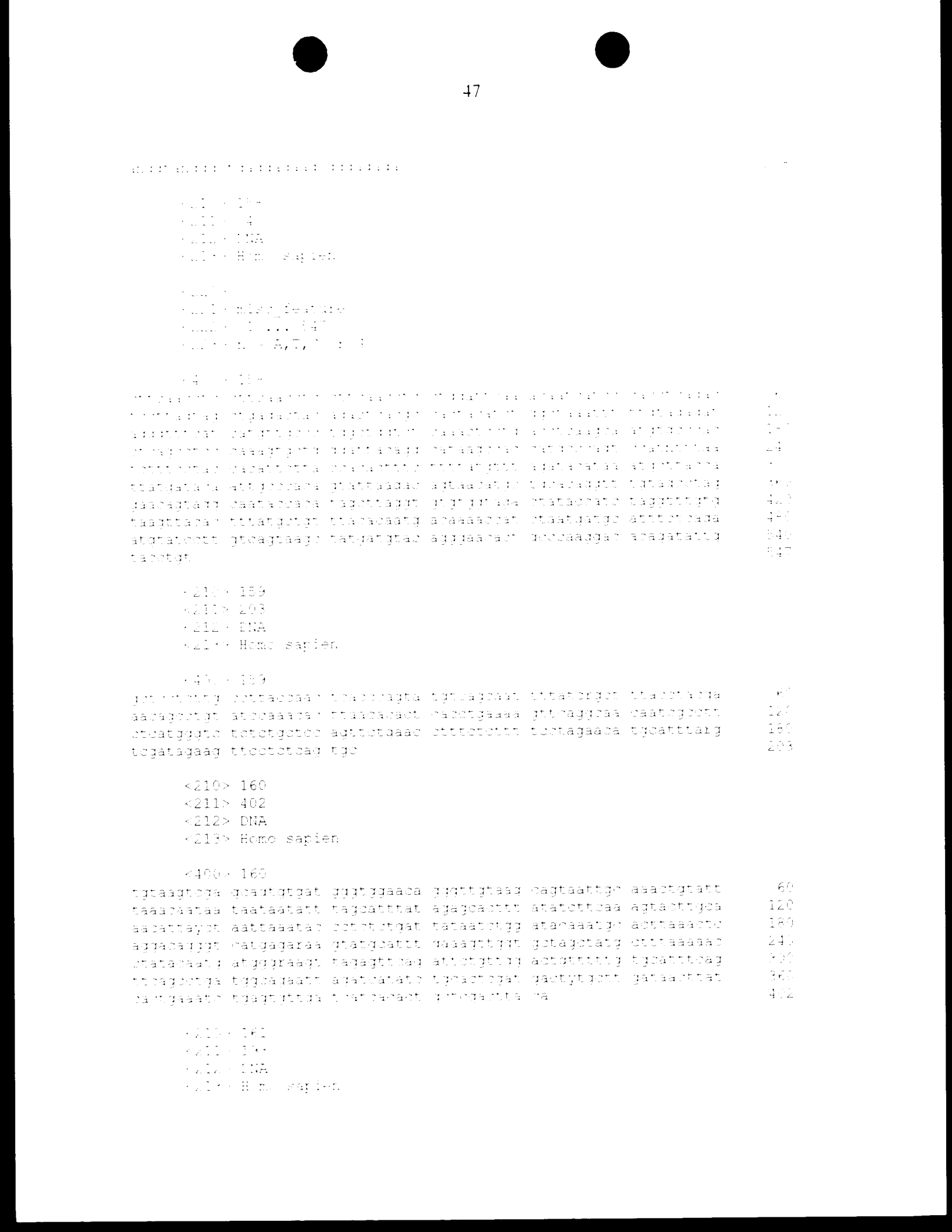

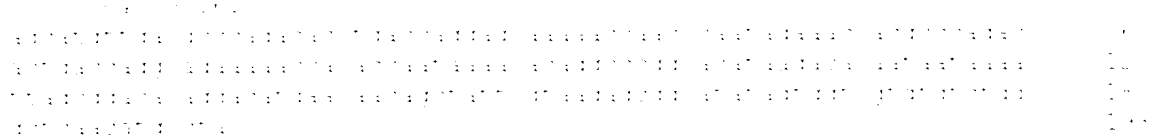

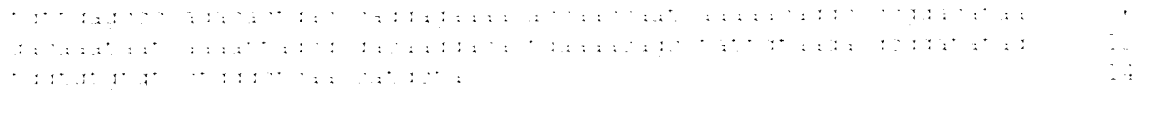

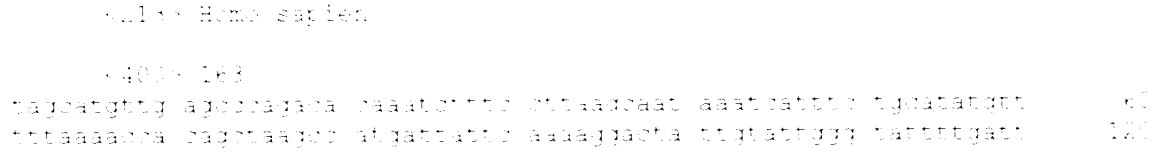

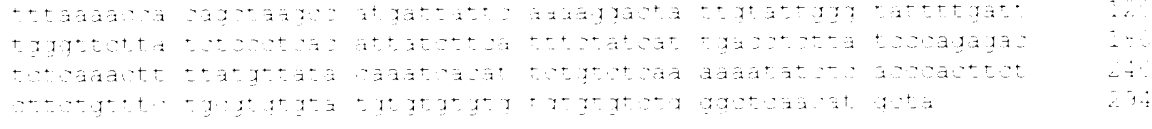

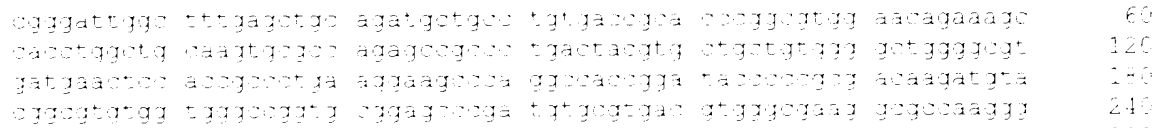

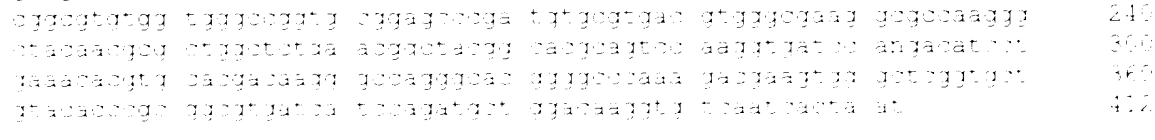

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<213> Homo sapien

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<222> (1)...(500)
<223> n = A,T,C or G

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ggagtagttc cctgctaagg gagggtagac tgttcaacct gttcctgctc cggcctccac 180
tatagcagat gcgagcagga gtaggagaga gggaggtaag agtcagaagc ttatgttgtt 240
tatgcggggg aacgccttat cgggggcagc cragttatta ggggacantr tagwyarttw 300
agntagcatc caaagcangg gagtttntcc c atatggttgg acctgcaggc ggcgcattta 360
gtgattagca tgtgagcccc agacacgcat agcaaaaagg acctaaactc agatnctgtg 420
ctgattactt aacatgaatt attgtattta tttaacaaat ttgagttatg aggcatatta 480
ttaggtccat attanctgga 500

<210> 168
<211> 368
<212> DNA
<213> Homo sapien

<400> 168

[illegible]

[illegible]

<210> 169
<211> 1265
<212> DNA
<213> Homo sapien

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tattaatttc caaaggtttt tacctctact ttaaatgctt tgaaaaacag tgcattgaca 720
atgggttgat attttctttt aaaagaaaaa tataattatg aaagccaaga taatctgaag 780
cctgttttat tttaaaactt tttatgttct gtggttgatg ttgtttgttt gtttgtttct 840
atttgttggt ttttttactt tgttttttgt tttgttttgt tttggtttgg catactacat 900
gcagtttctt taaccaatgt ctgtttggct aatgtaatta aagttgttaa tttatatgag 960
tgcattttaa ctatgtcaat ggtttcttaa tatttattgt gtagaagtac tggtaatttt 1020
tttatttaca atatgtttaa agagataaca gtttgatatg ttttcatgtg tttatagtag 1080
aagttattta tttctatggc attccagtgg atattttggt gtttgcgagg catgcattca 1140
atattttgta cagttagtgg atagtattta gcaatgcctg atagctttct tggctttatg 1200
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aaaaa 1265

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<212> DNA
<213> Homo sapien

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taattgatcc agagaacatg ctggctacaa ctaataaaac cgaaaaaagt gaatttctaa 180
atttttctca caaccattgt atgcatgttc tcacagcacc acttttgacc aatacttcag 240
aagacaaatg tgaaaaggat aatatagttg gatcaaacaa aaacaacaca atttgtcccg 300
ataattatca aacagcacag ctacttgcct taattttaga gttactcaca ttttgtgtgg 360
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<400> 171
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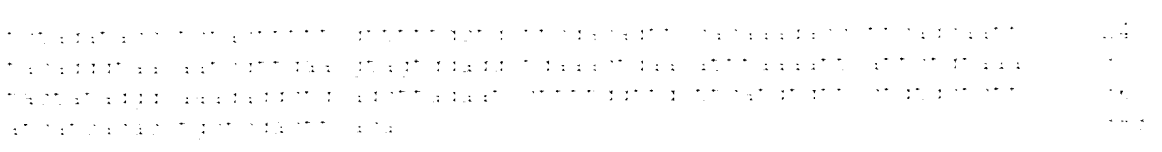

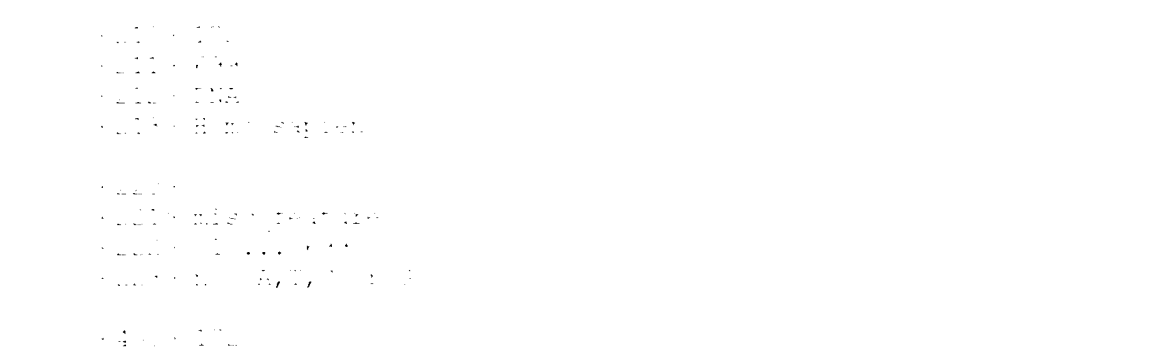

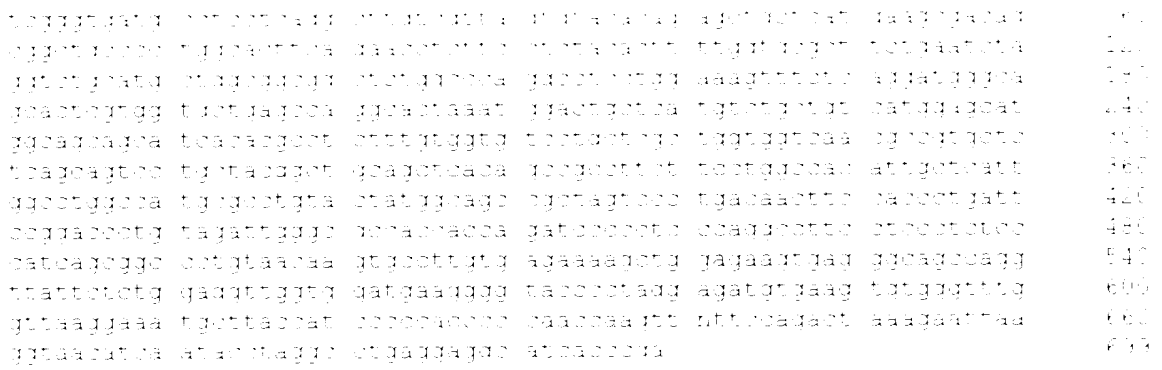

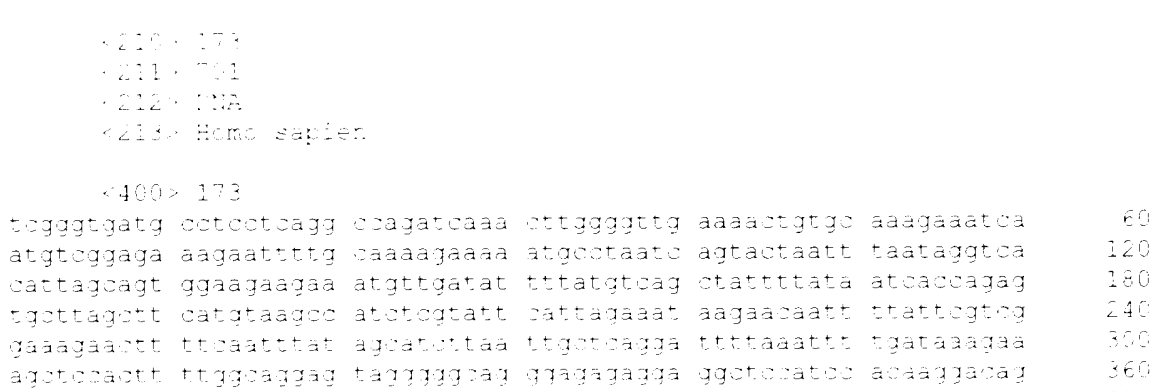

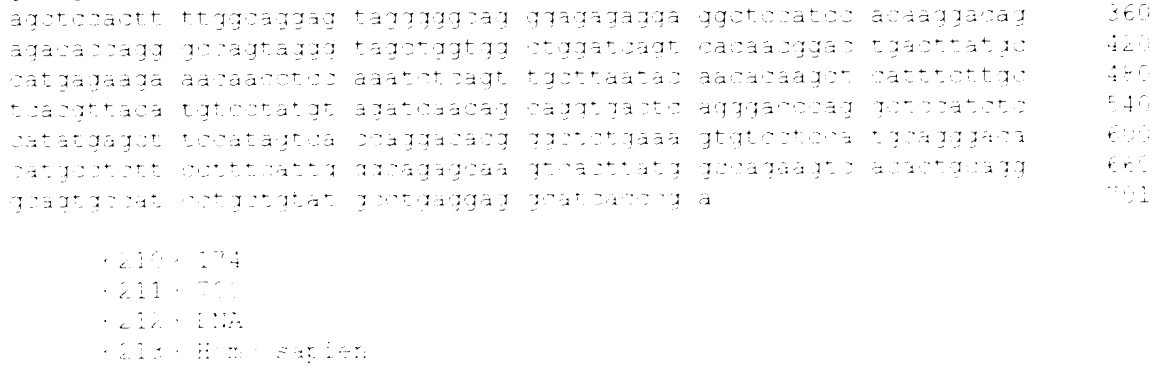

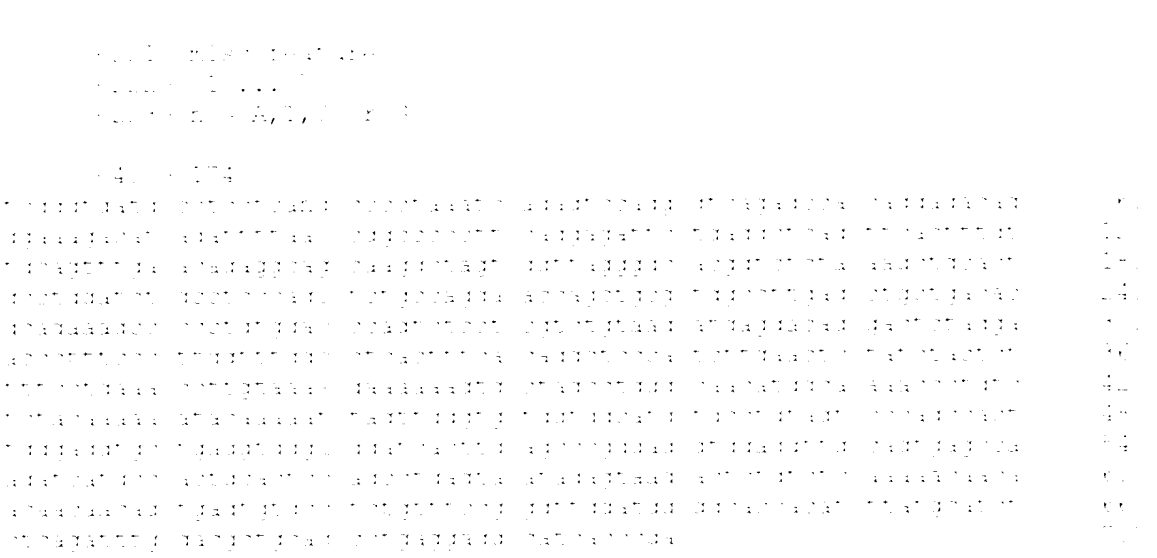

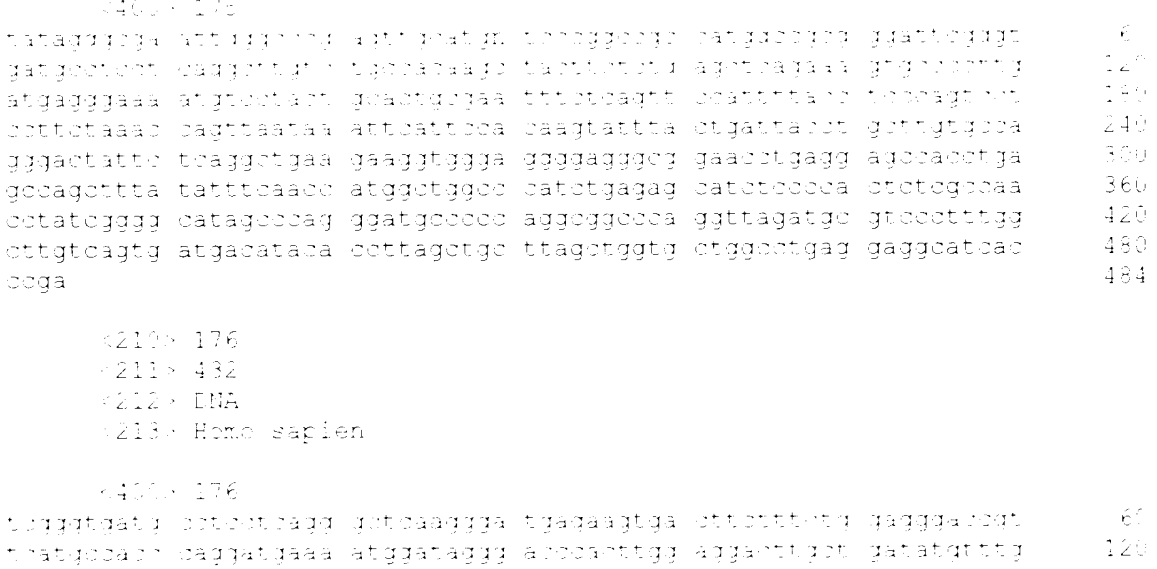

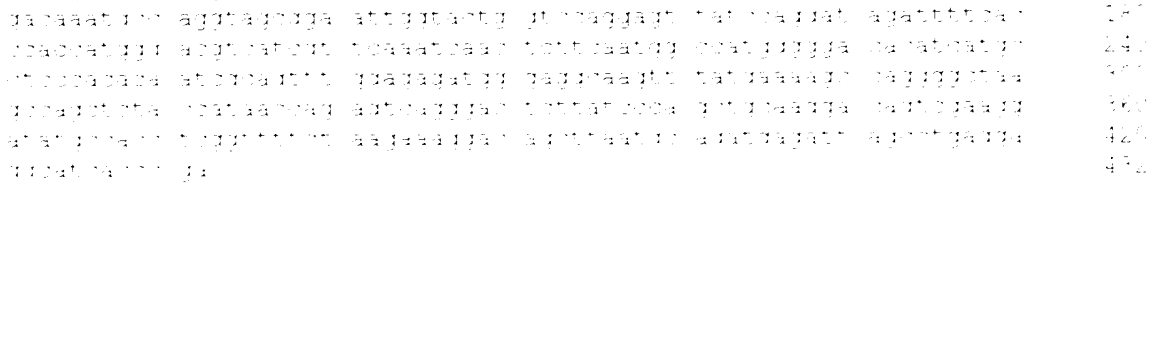

<210> 1
<211> [illegible]
<212> DNA
<213> [illegible]

<400> 1
[illegible]

<210> 178
<211> 786
<212> DNA
<213> Homo sapien

<400> 178
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cacttgggct gcagtttgaa tgacacactt ggctttatta gatttactag tttttaaaaa 120
attgttgttt ttttgttttt attaaaggtt taatcagaca gatagagacg catgatcttg 180
tatttaatga gatgaaactt ggtgtattta ttttatgaat agcttgtatt ttgaagtaag 240
agcctacaaa aggcagttgt tataaatgaa agttctggct ctagaggcca gtagtctgga 300
gtttcagagc agccagtgat tgttccagtc agtgatgcct agttatatag aggaggagta 360
cactgtgcac tcttctaggt gtaagggtat gcaacttgg atcttaaaat tctgtacaca 420
tacacacttt atatatatgt atgtatgtat gaaaacatga aattagtttg tcaaatatgt 480
gtgtgtttag tattttagct tagtgcaact atttccacat tatttattaa attgatctaa 540
gacactttct tgttgacacc ttgaatatta atgttcaagg gtgcaatgtg tattcctta 600
gattgttaaa gcttaattac tatgatttgt agtaaattaa cttttaaaat gtatttgagc 660
ccttctgtag tgtcgtaggg ctcttacagg gtgggaaaga ttttaatttt ccagttgcta 720
attgaacagt atggcctcat tatatatttt gatttatagg agtttgtgtc tgggctcaac 780
atgcta 786

<210> 179
<211> 796
<212> DNA
<213> Homo sapien

<400> 179
tagcatgttg agccagagca atggtttaaaa gaccagactt gttttttcca tatttaaata 60
gctttaaaaa agcgaattgaa ctatttttaat agtttgtgaa cattttttga tagtaaaaga 120
atatcttaat tggcgcattg tttgtagtcc agagttttgc tgtttgtgtt tgtgtttgtt 180
gtagtaaaat gtttaattct ttttgtatta agtgtttaaa tacctagtta cccaattgca 240
aaaaaaaaaa gtttaaaaaa tgtgtaaaaa tttatgtttt ttgtgtgtgt gtgtgtgtgt 300

[illegible]

<211> 147
<212> DNA
<213> Homo sapien

<400> 140
[illegible]

<210> 141
<211> 317
<212> DNA
<213> Homo sapien

<400> 141
tagratgttg agccagaaca cggctactgt atctgatgag tgggctgatg gcacctgtga 60
aaaggaggaa cgtcatcccc catgatattg gggacccaga tgatgaacca tggctccgcg 120
tcaatgcata tttaatccat gatactgctg attggaagga cctgaacctg aagtttgtgc 180
tgcaggttta tcgggactat taccttcacgg gtgatcaaaa cttcctgaag gacatgtggc 240
ctgtgtgtct agtaagggat gcacatgcag tggccagtgt gccaggggta tggttggtgt 300
ctgggctcaa catgcta 317

<210> 142
<211> 507
<212> DNA
<213> Homo sapien

<220>
<221> misc feature
<222> (1)...(507)
<223> n = A,T,C or G

<400> 142
[illegible]

<210> 193
<211> 597
<212> DNA
<213> Homo sapiens

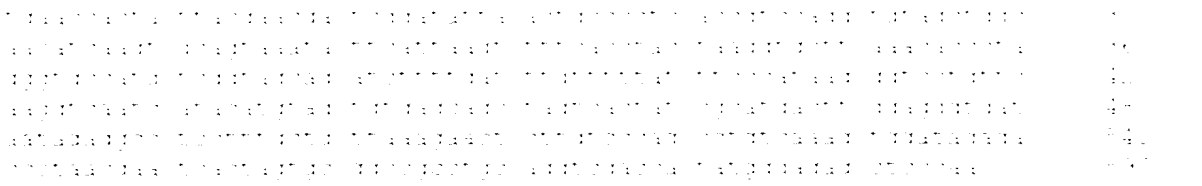
<400> 193
ttacgctgca acactgtgga gcagattaac atcagacttt tctatcaaca tgactgggtt 60
tactaaaaag acaacaaatc aatggcttca aaagtctaag gaatgaattc catacttcaa 120
ctttataaaa cctgacaaaa ctatcaatca agcataaaga cagatgaaga agattttcag 180
attttggcca atcagatatt ttaacttcac agtgttgcag cgtaa 225

<210> 194
<211> 597
<212> DNA
<213> Homo sapiens

<400> 194
ggcccgacgt cgcatgctcc cggccgccat ggcgcgggga ttcgttaggg tctctatccc 60
ctgggaccca taggctagtc agagtatttg gagttgagtt cctttctgct tcccagaatt 120
tgaaagaaaa ggagtgaggt gatagagctg agagatcaga tttgcctctg aagcctgttc 180
aagatgtatg tgctcagacc ccaccactgg ggcctgtggg tgaggtcctg ggcatctatt 240
tgaatgaatt gctgaagggg agcactatgc caaggaaggg gaacccatcc tggcactggc 300
acaggggtca ccttatccag tgctcagtgc ttcttttgct ctacctggtt ttctctcata 360
tgtgaggggc aggtaagaag aagtgcccrg tgttgtgcga gttttagaac atctaccagt 420
aagtgggcaa gtttcacaaa gcagcagctt tgttttgtgt attttcacct tcagttagaa 480
gaggaaggct gtgagatgaa tgttagttga gtggaaaaga cgggtaagct taatggatag 540
agacctaac gaatcactag tgcggccgcc ttgcaggtcg accatatggg agagctc 597

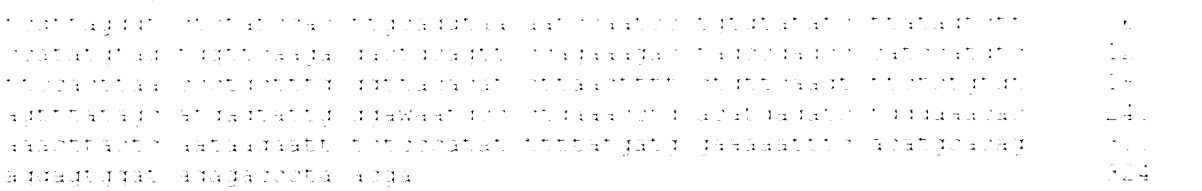
<210> 195
<211> 597
<212> DNA
<213> Homo sapiens

<400> 195



<210> 187
<211> 744
<212> DNA
<213> Homo sapien

<400> 187



<210> 188
<211> 179
<212> DNA
<213> Homo sapien

<220>
<221> misc feature
<222> (1)...(179)
<223> n = A,T,C or G

<400> 188
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gcttttcaat ttacgcattt tcaaatttgt ctccctattt gttgagtcac aacaaacacc 120
attgccaaga aacatgtatt acctaacatg cacatactct taaaactact catccctt 178

<210> 189
<211> 367
<212> DNA
<213> Homo sapien

<400> 189
tgacaccttg ttcagcatct gacacagtct tggctcttgg aaaatattgg ataaatgaaa 60
atgaatttct ttagcaagtg gtataagctg agaatatacg tattacatat cctcatttta 120
agacacattc agtgtccctg aaattagaat aggacttaca ataagtgtgt tcacttttct 180
aatagctgtt attcaatttg ttgtaggtct taaaagtcaa agaaaatgaa gggcatgtga 240
tuaaaagctc aatatcactg atgattagaa aacttttatt taaaccccca atgagataca 300
atctcatacc agtnagaatg gctatttatta aaaagtcaaa aaataatgga tgctgga aa 360
ggtgtca 367

<210> 190
<211> 163
<212> DNA
<213> Homo sapien

<210> 191
<211> 449
<212> DNA
<213> Homo sapien

<400> 191
tgacgcttgg ccacttgaca cttcatcttt gcacagaaaa acttctttac agatttaatt 60
caagactggt ctagtgacag tcctccagac atttttttcat ttgttccata tacgtggaat 120
tttaaaatca tgtttcatca gtttgaaatg atttgggctg ctaatcaaca caattggatc 180
gactgttcta ctaaacaaca ggaaaatgtg tatctggcag cctgtggaga aacactaaac 240
attgattttt ctttgccttt tacggacttt gttccagcta catgtaatac caagttctct 300
ttaagaggag aagatgtttga tcttcatttg tttctaccag actgccaccc tagtaaatat 360
tctttatttta tgctggtaaa aaattgccat ccaaataaga tgattcatga tactggtatt 420
cctgctgagt gtcaagtggc caagcgtca 449

<210> 193
<211> 372
<212> DNA
<213> Homo sapien

<400> 193
tgaaatttgg ccactttaca ttaggtatct aacagttaaa tataattctg ttaatttgta 60
tattttcaat tttgtatcaa agattctaga aaagaaaaaa cagggattct agggtatata 120
atgtgcaata aaaaaatggt aatttgcatg atatattaaa gtgaatttaa tttaagtttg 180
ttgtaaggtt ttttttgcct gtgtgtgtgt tgagatatta tgtgttttct ttgtaatttt 240
ttttatatta atttttatat atttttaata ttgaaaaaaa aaaaaaaaaa a 291

<210> 194
<211> 414
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(414)
<223> n = A,T,C or G

<400> 194
tgacgcttgg ccacttgaca cccaatctcg cacttccatc tccagcaacc tgatgaagta 60
ggactgcaac tatcccccct tcccagatga ggggacccaa gtacacatta ggaccgggat 120
gggagcacag atttgtccga tcccagactc caagccactc acgtcactcc aggacagcgg 180
ctttcagata aggtcacaaa catgaatggc tccgacaacc ggagtcagtc cgtgctgagt 240
taaggcaatg gtgacacgga tgcacgtgtn acctgtaatg gttcatcgta agtgtcaagt 300
ggcccaagcgt ca 312

<210> 196
<211> 258
<212> DNA
<213> Homo sapiens

<400> 196
tgtatctaag tagttggtct ctcagccatg cagaactgtg actcaatttaa aactttttct 60
tttatgaatt acccaatctc gggtagtgtc tttatagtag ttgtgagaatg gactaatacta 120
agtaaatttt acttagtaat aataataaac aaaataatta tattttttgtg tatttatcac 180
aacatatttt ttatttttat tgtagtgtac ajttttaat tattaaaaga aatajjtttg 240
aggtttttaj atcaajaggt tatgagatgg ajjatnatac gtggatat 288

<210> 197
<211> 279
<212> DNA

<211> 1042
<212> DNA
<213> Homo sapien

<220>
<221> misc feature
<222> (1)...(1042)
<223> n = A,T,C or G

<400> 199
gcttttttggg aaaaaachcaa ntgggggaaaa gggggnttnn tngcaagggg ataaaggggg 60
aanccccaggg tttcccccatt cagggaggtg taaaaagnog gccagggggat tgtaanagga 120
ttcaaataata gggggaatgg gcccngaagt tgcaaggttc cngcccgcca tgnccgcggg 180
atttagtgac attacgacgs tggtaataaa gtgggscaaa waaatatttg tgatgtgatt 240
tttsgaccag tgaacccatt gwacaggacc tcatttccty tgagatgrta gccataatca 300
gataaaagrt tagaagtytt tctgcacgtt aacagcatca ttaaatggag tggcatcacc 360
aatttcaccc tttgttagcc gataccttcc cottgaaggc attcaattaa gtgaccaatc 420
gtcatacgag aggggatggc atggggattg atgatgatat cagggtgtat accttcacag 480
gtgaaaggca tatcctcttg tctatactga ataccacaag taccctttttg accatgtcga 540
ctagcaaatt tgtcttnaat ctgtgtwatc cctaacagag cgtacccctta ttttacaaaa 600
tttatatcct tcctgattga gagttaccat aacctgatcc acaatgcccg tctcgctwgt 660
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ttcatttttc anccaaggtg aactgttttg cctataataa ymtcatcttcc tgatacmcga 780
aacccnkggn nctatcaaac catnatcatc cagtgttckt watgtymcta aatcccttatt 840
gcggcgcgct gcaggtnaac atatngggaa acncccaanc ncttnggagc ntancttgaa 900
ttttcnatat gtcccntaaa ttancttgnc ttancctngc cntaacctnt tcngqttttaa 960
atngttttng tccccnttcc ncncttttna acctaaaacc ttaatttina acnngggttt 1020
ttttttt 1042

<211> 21
<212> DNA

<200> H m sapi n

<400>
[illegible]

<210>
<211>
<212> DNA
<213> H m sapi n

<400>
[illegible]

<210> 202
<211> 349
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1 ...)..349
<223> n = A,T,C or G

<400> 202
ntcacatgca acactgtgca gccactgctt tttattcccg ttagggttat cacaaaaaaj 60
tcactgaaca cacggaagac cgtggtatgg taaccgtttc cagtaatcgt tctagtcatc 120
tgcgggaccc cgacgagcgt cactgggtac agaccagatt cagccggaag agaaagcgcc 180
gcagggagag actcgaactc cactccgctg gtgagcagcc ccatgttttc aactcgaagt 240
tcaaacggca ttgggttata taccatcagc tgaacttcac acacatctcc ttgaacccac 300
tggaaatcta ttttcttgtt ccgctcttct ccacagtgtt gcagcgtaa 349

<210> 203
<211> 241
<212> DNA
<213> Homo sapien

<400> 203
tgctcgtctt gcgttaccaa cccaaagccc actgtgaaat atgaagtgaa tgacaaaatt 60
cagttttcaa cgcaatatag tatagttttt ctgattcttt tgatttccaj gacacttttaa 120
acaaatgcta ctaccaccac taacctaggg atttagcgat ctcccacagac cagaaatttat 180
ttctcttttg agtttcaggc tcttctgcga ttccctgttc tcaatgggtg gtaaatggct 240
a 241

<210> 204
<211> 447
<212> DNA
<213> H m sapi n

<400> 204
aaaaaaaaaa aaaaaaaaaa gaaaaaaaaa aaaaaaaaga tgtaaaaaga tttaaaaaaa 60
aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 120
aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 180
aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 240
aaaaaaaaaa 250

<210> 205
<211> 179
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(179)
<223> N = A,T,C or G

<400> 205
tagagtgcaa nactgtgtag ccattcatat aggtnctaa ttaaggaaca antaattatg 60
ctaccttgc acggttaggg tacccgggcc gttaaaaatg tgtcactgtg caggcggtgc 120
ttctaatatt ggtgatgcta gaggtgatgt ttttggtaaa nagcgggct aagatttgcc 180
gaattccttt tacttttttt aaccttttct tatgagcatg cctgtgttgg gttgacagtg 240
gggtaataa tgacttgttg gttgattgta gatatcaggc tgttaattgt cagttcagtg 300
ttttaatcta accaaggctt atgcggagga gaatgttttc atcttactta tactaacatt 360
agttcttcta tagggtgata gattggtcca attgggtgtg aggagttcag ttatatgttt 420
gggatttttt aggtagtggg tgttgaacct gaacggtttc ttaattggtg gctgctttta 480
gggcactat gggtggtaaa tggct 505

<210> 206
<211> 179
<212> DNA
<213> Homo sapien

<400> 206
tagactgact catgtccact accaaagccc atgtaaggag ctgagttctt aaagactgaa 60
gacagactat tctctggaga aaaataaaat ggaaattgta ctttaaaaaa aaaaaaaatc 120
ggccgggcat ggtagcacac acctgtaatc ccagctacta ggggacatga gtcagtcta 179

<210> 207
<211> 176
<212> DNA
<213> Homo sapien

<400> 207
agactgagtc atgtcccatt accaaagttc tgctgtgctg ccatgtttct aaagaggtac 60
agactggtac tggttagtgg cctgggggtt gaggacctct attatatggg atacaaattt 120
aggagttgga attgacatta tttagtgact gatgggatat tggtggtaaa tggcta 176

<210> 208
<211> 196
<212> DNA
<213> Homo sapien

<400> 208

[illegible]

<210> [illegible]
<211> 147
<212> DNA
<213> Homo sapien

<400> [illegible]
[illegible]

<210> 210
<211> 178
<212> DNA
<213> Homo sapien

<400> 210
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gagtaaaatat ttgaggcttt gtgggttgtg cagtgtgtct tgcaactact cagctctcgc 120
attgtagcat agaaatcagc catagacagg acagaaatga atgggtggta aatgggtca 178

<210> 211
<211> 454
<212> DNA
<213> Homo sapien

<400> 211
tgggcacctt caatatctat ccagcgcatc taaattcgct tttttcttga ttaaaaattt 60
cacctcttgc tgttttttgct catgtataac aagtagcagt ggtgtgaggc catgcttgtt 120
ttttgattcg atatcagcac cgtataagag cagtgctttg gccattaatt tatcttcatt 180
gtagacagca tagtgtagag tggtatctcc atactcatct ggaatatttg gatcagtgcc 240
atgtttcagc aacattaacg cacattccatc ttcctggcat tgtacggcct ttgtcagagc 300
tgtcctattt ttgttgtaaa ggacattaag ttgacatcgt ctgtccagca cgagttttac 360
tacttctgaa ttccattttg cagaggccag atgtagagca gtcctctttt gcttgtcact 420
cttgttcaca tcagtgtccc tgagcataac ggaa 454

<210> 212
<211> 337
<212> DNA
<213> Homo sapien

<400> 212

<211> 213
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> 1...(213)
<223> n = A,T,C or G

<400> 213
tcgggtgtgg gcttgtcacg catcttccat ctatctcttc aagattagct gtcccaaatg 60
ttttcccttc tttcctttac tgataaattt ggactcattc ttgaaattga tgacagcttt 120
aatatcattc ttgtcaactt gcagacttta aacatgaaaa tactcattag ttttaaaagg 180
aaaaaagtat acattagcac tattaagctt ggctttgaaa catttctcat cttttatttaa 240
atgtcggtta gctgaaagga attcacttta caatgcagat ngagaaaaga agggagctat 300
atgcatttga gaatgcaagc attctaaaat aaacatttta aatgcttttt taaagtgagc 360
acatacagaa atacattaag atattagaaa gtgttttttg ttgtgtactg ctaattaggg 420
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ttgtgcaatt tcttttagtt atctgtatag tttataaaat gtcaaatctt atttagtccg 600
ttttcatgct gctatgaaag aaatacccan gacaggttta tttataaang gaaagangtt 660
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<210> 214
<211> 345
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(345)
<223> n = A,T,C or G

<400> 214
ggtaangngc atacntcggt gctccggcag cggagtcgg gggattcggg tgatgcctcc 60
tcaggccgan ttgggcnttg cttttcncaaa tggcagctcc tctggacatg ncattcctta 120
tccgacctgc ctgattcctc atatgttgag tgtcctgttt ttttggtgc tatttcctga 180
cngctgttca gctgccactg tcctgcaaag cctgcctttt taaatgcctc acgattcctt 240
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gcctgtaatc ccagcactt gggagccgga ggaggcatca cttga 345

<210> 215
<211> 423
<212> DNA
<213> Homo sapien

<400> 216
tgacacctat gtccagcatc tgttcagagt ttccagaaat agccagcttt tggccacttc 60
tctgtcctga gttataagag tatatgagga ggtgtatatc ttctcttctc ttccccacca 120
aagagaacat gcaggctctg gaagctgtct tagaaatctt tgggctgaga atttcagagt 180
cttgggtacc ttgaatgtgg tctggaaaga gaaacattgg ctctggataa ggagtatgga 240
cggaggaggg tcacagagcc ctcagctcaa gcccctgtgc cttagttcaa aagcagcttt 300
ggatgaggaa gtaggttaag taaatatagt aagcgtatcc tgattgaaag ttctgaaagt 360
cagaattgca tagtgttgag gagtagtacc tcaatgaatt aaggcaaatc gactgaccca 420
agaagaccca ttaatgaatt gcttaacggg aaggatgaag gctatgatgg agatcttttt 480
atgaagatta ttgtttaaaa ttatgaaacg antagtgtag ggacagggcc agaagtaaaa 540
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<210> 217
<211> 335
<212> DNA
<213> Homo sapien

<400> 217
tgacaccttg tccagcatct gacgtgaaga tgagcagctc agaggaggtg tcctggattt 60
cctggttctg tgggctccgt ggcaatgaat tcttctgtga agtggatgaa gactacatcc 120
aggacaaatt taatcttact ggactcaatg agcaggtccc tcactatcga caagctctag 180
acatgatctt ggacctggag cctgatgaag aactggaaga caacccaaac cagagtgacc 240
tgattgagga ggcagccgag atgctttatg gattgatcca cgccagctac atccttacca 300
acccgtggga tcgcccagat ctggacaagg tgtca 335

<210> 218
<211> 249
<212> DNA
<213> Homo sapien

<400> 218

<211> 221
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(221)
<223> n = A,T,C or G

<400> 220

<210> 220
<211> 831
<212> DNA
<213> Homo sapien

<400> 220
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aaatttccc agtgtcaggg attgtcagga acagggctgc tcctttgctc actttaactg 120
ctgtatttct gctggaaaag gagggaagag gaatggctga ttttacctta atgtctccca 180
gttttcata ttcttcttgg atcctcttct ctgacaactg ttccctttg gtcttcttct 240
tcttgctcag agagcaggtc tctttaaaac tgagaaggga gaatgagcaa atgattaaag 300
aaaacacact tctgaggccc agagatcaaa tattaggtaa atactaaacc gcttgcctgc 360
tgtggtcact tttctcctct ttcacatgct ctatccctct atccccacc tattcatatg 420
gcttttatct gccaagttat cggcctctc atcaaccttc tccctagcc tactgggga 480
tatccatctg ggtctgtctc tggtgtattg gtgtcaagtg gccaagcgtc a 531

<210> 221
<211> 930
<212> DNA
<213> Homo sapien

<400> 221

<211> 576
<212> DNA
<213> Homo sapien

<400> 223
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atggacttac cctaaaacata ttttatcatc atttacgagtt gcaaaaatatt agaatgtgtt 120
gtcactgttt catttgattc ctagaaggtt agtcttagat atgttacttt aacctgtatg 180
ctgtagtgct ttgaatgcat tttttgtttg catttttgtt tgcccaacct gtcaattata 240
gctgcttagg tctggactgt cctggataaa gctgttaaaa tattcaccag tccagccatc 300
ttacaagcta attaagtcaa ctaaatgctt ccttgttttg ccagacttgt tatgtcaatc 360
ctcaatttct gggttcattt tgggtgccct aaatcttagg gtgtgacttt cttagcatcc 420
tgtaacatcc attcccaagc aagcacaact tcacataata ctttccagaa gttcattgct 480
gaagccttte ctttcacccag cggagcaact tgattttcta caacttccct catcagagcc 540
acaagagtat gggatatgga gaccactacg tggataca 578

<210> 224
<211> 345
<212> DNA
<213> Homo sapien

<220>
<221> misc feature
<222> (1)...(345)
<223> n = A,T,C or G

<400> 224

<211> 441
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(281)
<223> n = A,T,C or G

<400> 226
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tcagtgtttt ggacaatgag gtatnatngt cattttattg ttttcagact ttaaatgttt 120
aaatttaaat ctgtgatgac aagtctggaa ttnottnatg ggttttacaa agtattttgg 180
atcaatactc caacaaatca gaaagccaga aagaggatcc tttcaatatt gcagaacaac 240
gagtggattt acacacctca ggagacccct acgtcgatac a 281

<210> 227
<211> 3646
<212> DNA
<213> Homo sapien

<400> 227
gggaaaaact tcctcccagc cttgtaaggt ttggagccct ctccagtata tgctgccaaa 60
ttttttctcc ggtttctcag aggattatgg agtccgtctt aaaaaaggca agctctggac 120
actctgcaaa gtagaatggc caaagtttgg agttgagtgg ccccttgaag ggtcactgaa 180
actcagaatt gttgaagtta tgttgcgggt tgttactgaa actcccgtct tcccctgatc 240
ttttcctcac attgatcaat ggctgagttt gttcaggagc accctttccg tgggttcact 300
catgcatcat tcataaattt acttccaagg tcctcttgag ccagatgttg ttttcgcctc 360
gaccttgagc cggttcgtct cgctctgtag tgcctgtctc ttaagaatgt gatgatttct 420
ttcagtccat ccaagcgtct taaaaatcag ttactcgctt agtgtgatta catgtcttca 480
cggctatgtc tcctgtaggc tcattacctc tttgcctctt gttcaaccct tggtgtttaa 540
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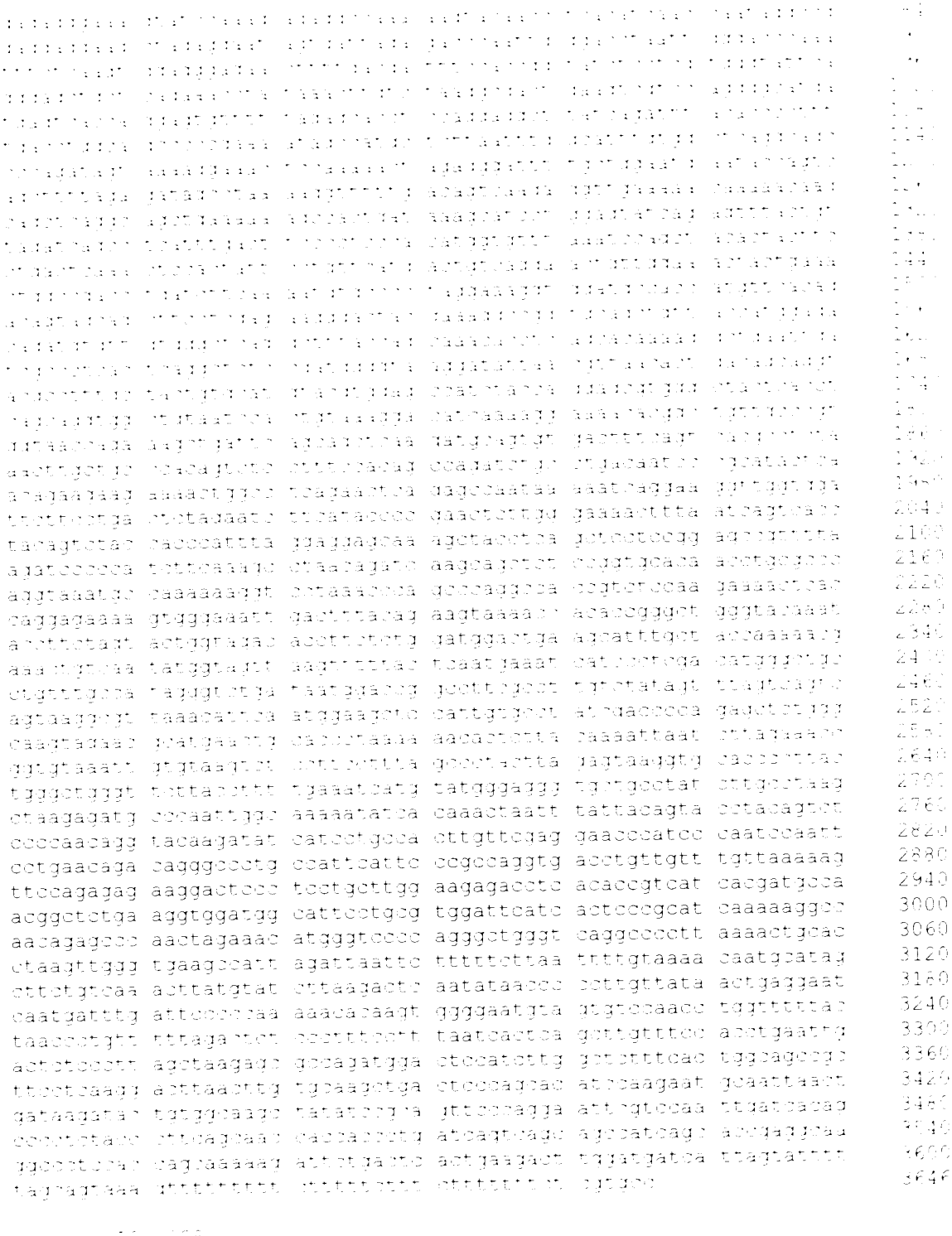

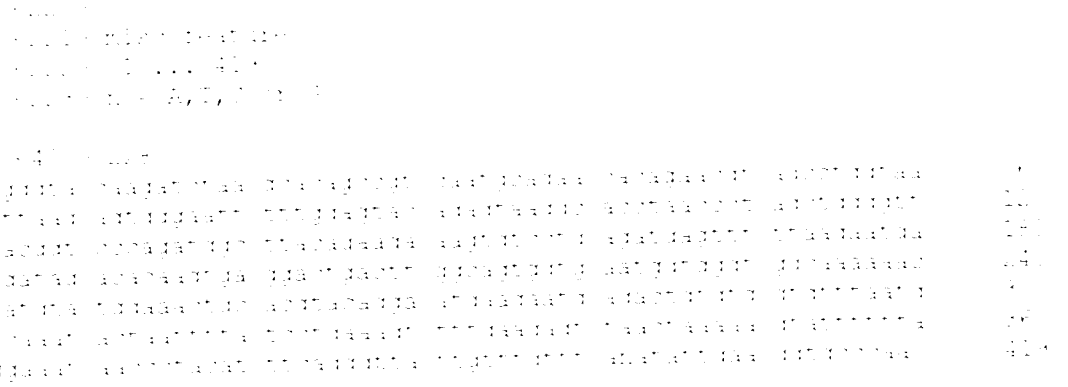

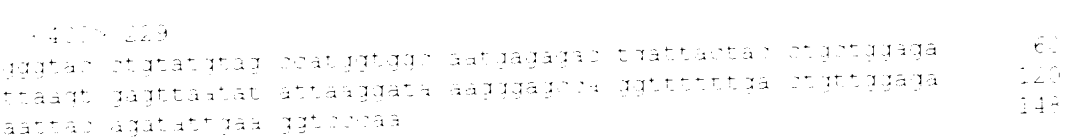

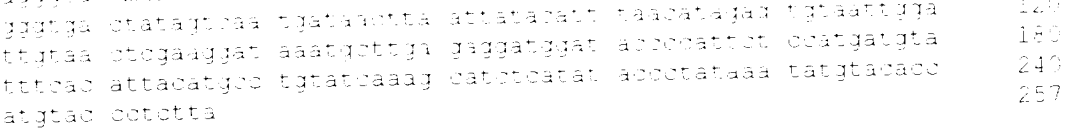

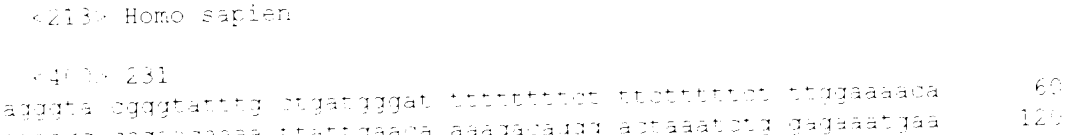

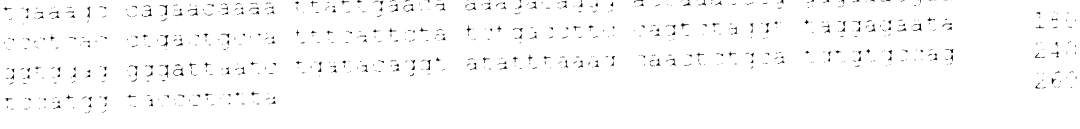

<211> 96
<212> DNA
<213> Homo sapien

<400> 233
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taaggcaaga ggagcgtttg taaggcaaga ggagca 96

<210> 234
<211> 313
<212> DNA
<213> Homo sapien

<400> 234
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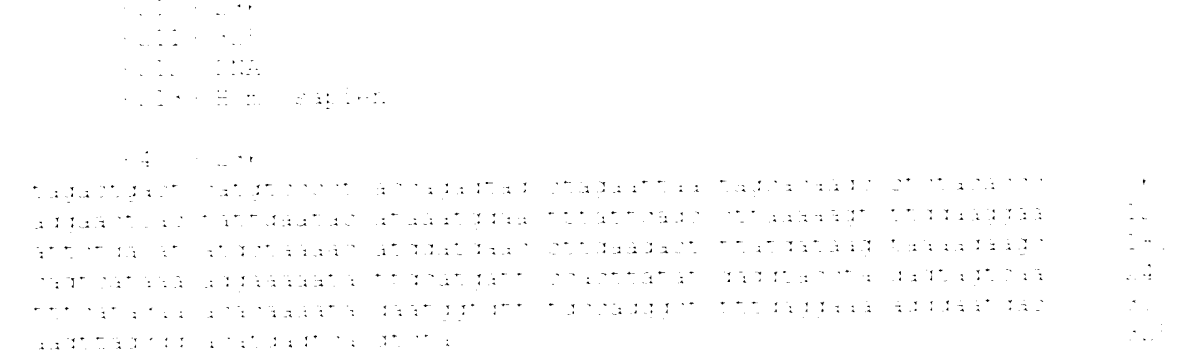
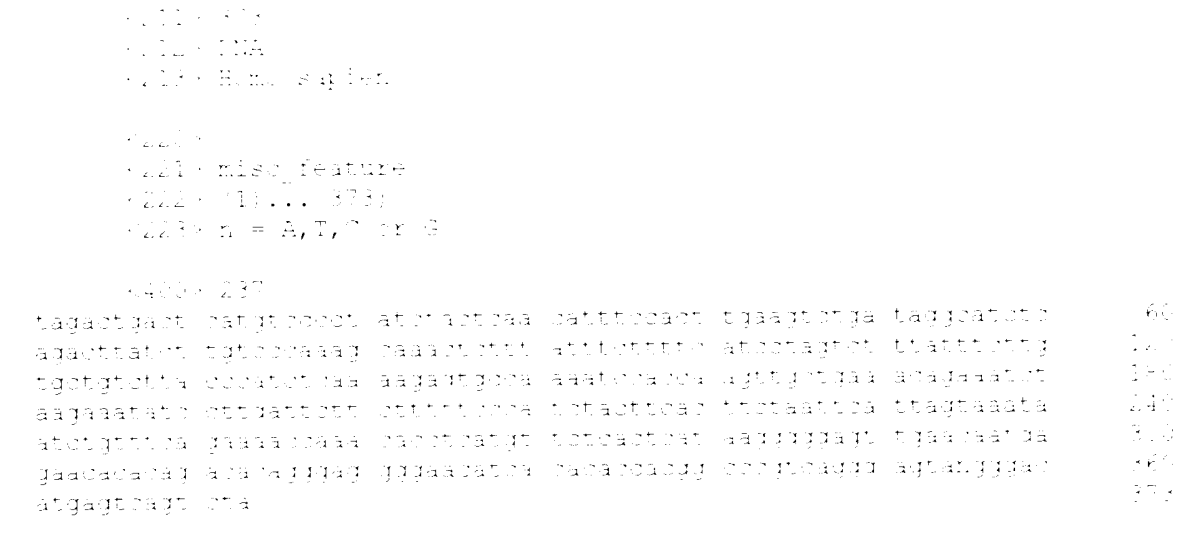
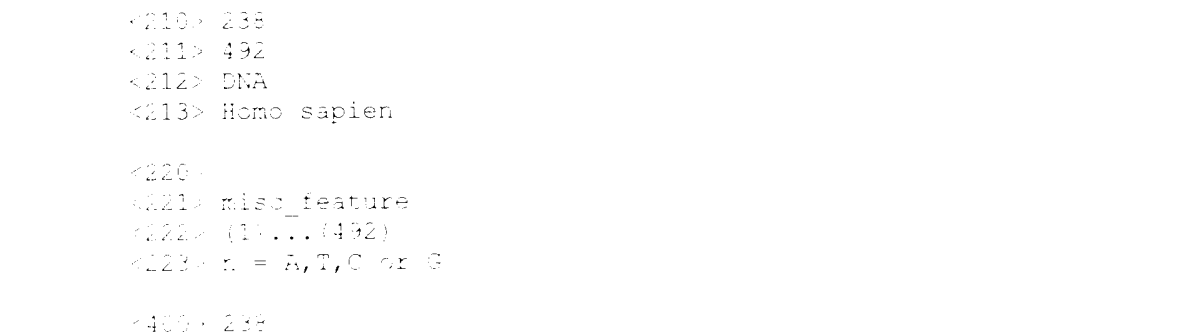
agcaaagaaa gtagtttctt gtgatggaat ctgctcctgg caaaaatgct gtgaacgttg 120
ttgaaaagac aacaaagagt ttagagtagt acataaattt agaatagtac ataaacttag 180
aatagtacat aaacttagta cataaataat gcacgaagca ggggcagggc ttgagagaat 240
tgacttcaat ttggaaagag tatctactgt aggttagatg ctctcaaaca gcatcacact 300
gctcgactta caa 313

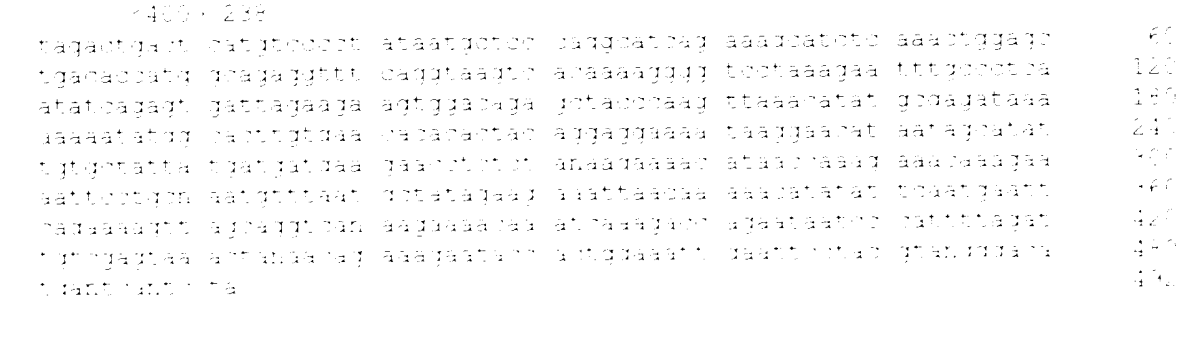
<210> 235
<211> 550
<212> DNA
<213> Homo sapien

<400> 235









<211> 519
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
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<223> n = A,T,C or G

<400> 240
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aagccttgca gttgagatag aggaagggca ctgtctcctg cctgcccctg ggaattgaat 180
gtctcggtat aaaaccccgat tgtacatttg ttcaattctg agataggaga aaaaccaccc 240
tatggcgggg ggcgagacat gttggcagca atgctgcctt gttatgcttt actccacaga 300
tgttttgggcg gagggaaaca taaatctggc ctacgtgcac atccaggcat agtacctccc 360
tttgaacttg attatgacac agattcctit gctcacatgt tttttgctg acctttctct 420
tattatcacc ctgctctcct accgcattcc ttgtgctgag ataatgaaaa taatatcaat 480
aaaaacttga nggaactcgg agaccactac gtcgatacg 519

<210> 241
<211> 771
<212> DNA
<213> Homo sapien

<220>
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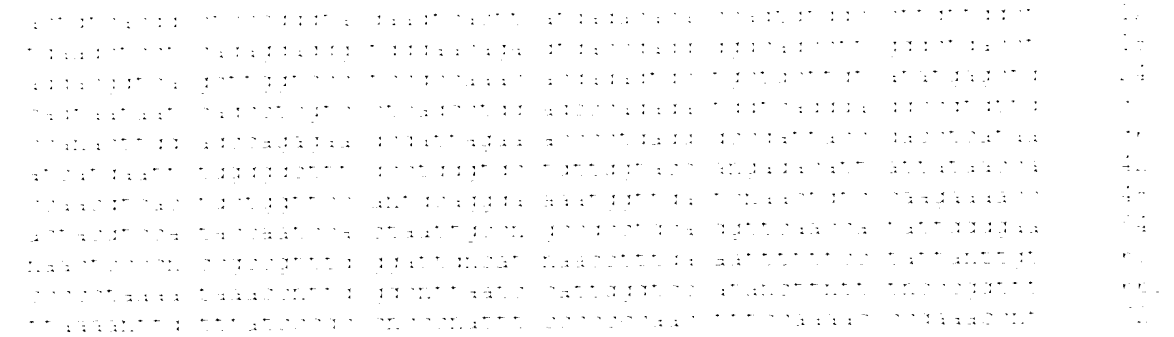
<222> (1)...(771)
<223> n = A,T,C or G

<400> 241



<210> 242
<211> 187
<212> DNA
<213> Homo sapiens

<400> 242
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tcctttctag gaaattctgg attttcaaat tcttgaggaa attaatttaa attaatctgc 120
tctttcaatt tcctcatttt tctaaggttt tctggtaaaa attggta 187

<210> 243
<211> 338
<212> DNA
<213> Homo sapien

<400> 243
ttgggtaatt tcaaatatta ttgatcttaa tagtgtgttt tgaggcattt tgtttcattg 60
taaaaattct tggcaaagag ctaatcttaa tttaaaatag agttaaaaat gttacaattg 120
atatttattg caaagcttag atagagaaag taatttttaa caaggtattt ttcaacttgt 180
taataacagt ggttttttta cacccataga gtgccaccaa gggaggagtg cacagtttgc 240
gaaacaaatt aagatactga agacaacact acttaccatt tcccgtatag ctaacccacc 300
gttcaactgt acatgtatgt tcttatgggc aatcaaga 338

<210> 244
<211> 346
<212> DNA
<213> Homo sapien

<400> 244
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tgcaaaaatg atcaatataa ttgaagatcc cgttgtaagg tacaaatgta ttaatattat 120
aatgatatta atgatcttaa tacagttttt agttttgcat tgaatcaaat cactgttttt 180
gttgtataaa aagagaaata tttagttaat atttaagtat catattgtaa gaaaaagtat 240
gttgatattt atatgttaaa atcatgatct gtatattggt gtagtgaata ttattgtaaa 300
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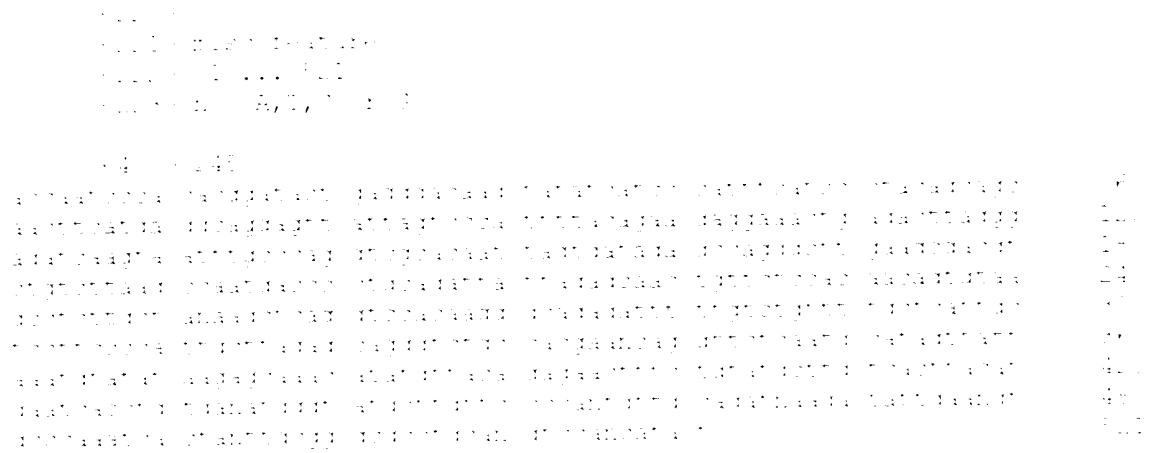
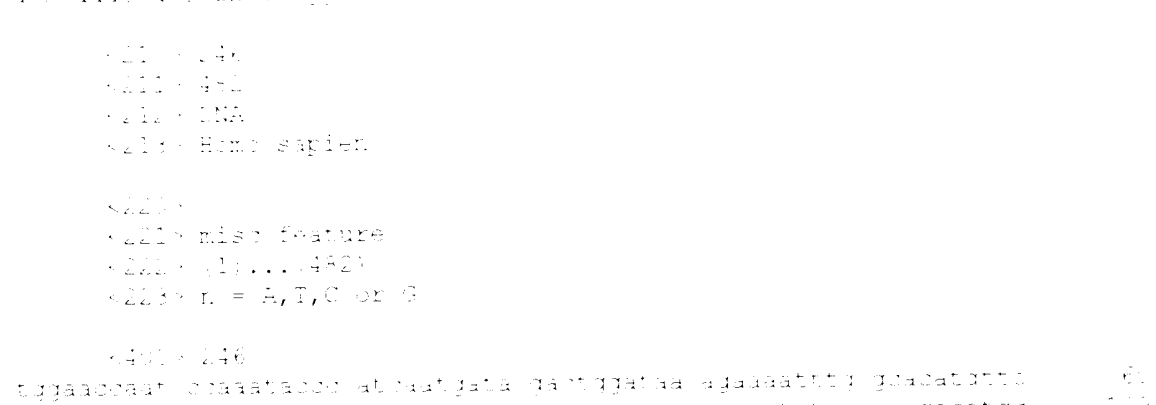
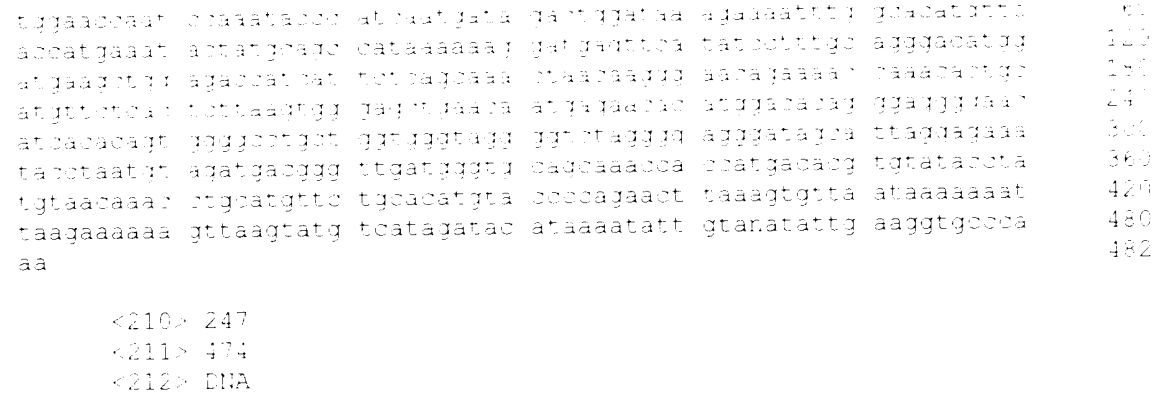
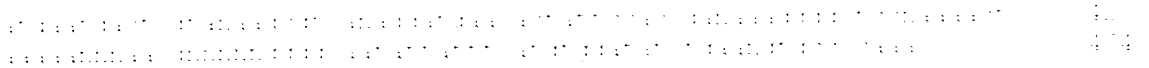
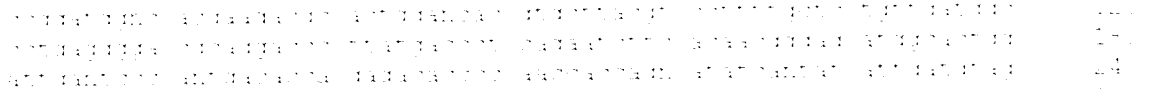
<210> 245
<211> 421
<212> DNA
<213> Homo sapien

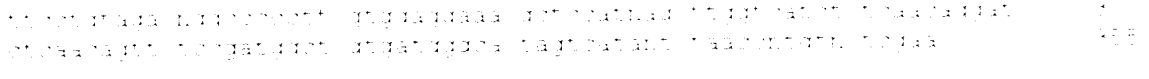


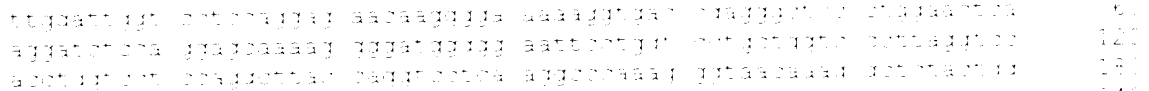


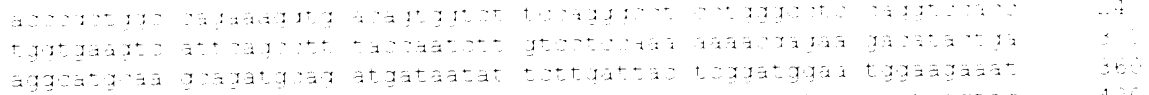


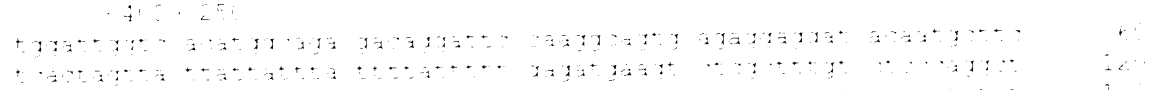


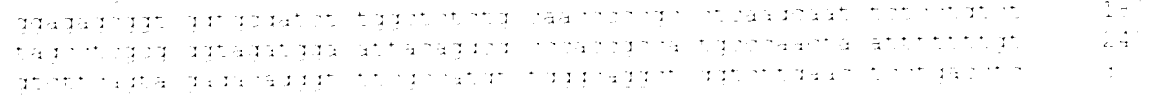


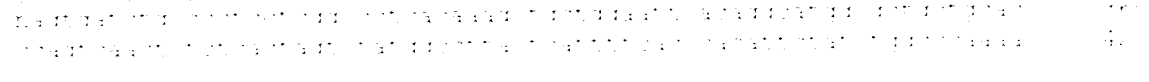












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<212> DNA
<213> Homo sapien

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<222> (1)...([illegible])
<223> n = A,T,C or G

<400> [illegible]
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[illegible]

<210> 249
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<212> DNA
<213> Homo sapien

<400> 249
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[illegible] [illegible] caggtcctca aggcccaaag ggtaacaaag [illegible] 180
[illegible] cagaaaggtg acagtggtct tccaggccct [illegible] [illegible] 240
tggtgaagtc [illegible] taccaatctt gtcctccaaa aaaaccagaa [illegible] 300
aggcatgcaa gcagatgcag atgataatat tcttgattac tcggatggaa tggaagaaat 360
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tcagaccaat ccaa 434

<210> 250
<211> 430
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(430)
<223> n = A,T,C or G

<400> 250
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<210> 807
<211> 807
<212> DNA
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<221> misc_feature
<222> (1)...(807)
<223> n = A,T,C or G

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<211> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> 1 ... 461
<223> n = A,T,C or G

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ccaatacatt aatgccaaaa cccttgggtt ttatcaatat ttctgttaaa aagtattatc 120
cagaactgga cataatacta cataataata cataacaaca cctttcatct g gatgcaaaca 180
tctatttaata tagcttaaga trachtttcac tttacagaag caacatcctg ttgatgttat 240
ttttatgttt ggacraatcc aa 262

<210> 257
<211> 461
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> 1 ... 461
<223> n = A,T,C or G

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<210> 259
<211> 291
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(291)
<223> n = A,T,C or G

<400> 259
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gaccgcttgt gaccgcttgt gaccgcttgt gaccgcttgt gaccgcttgt gaccgcttgt 120
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<212> DNA
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<400> 260
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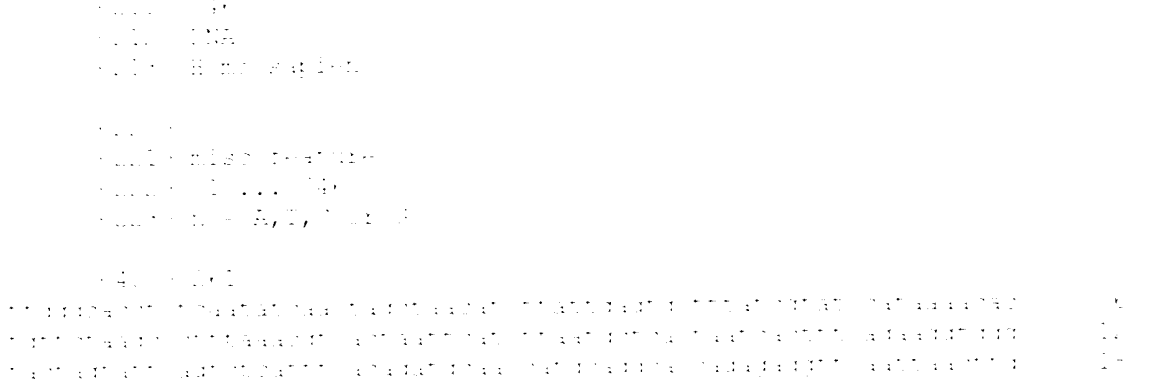
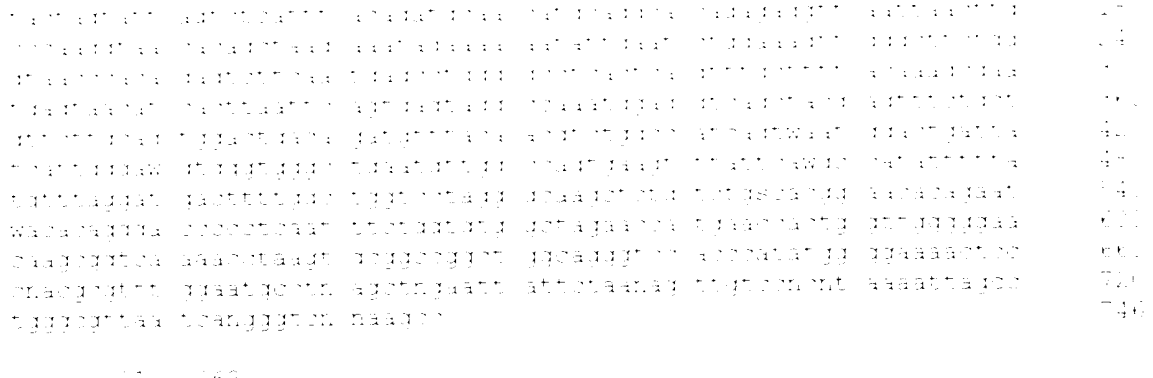
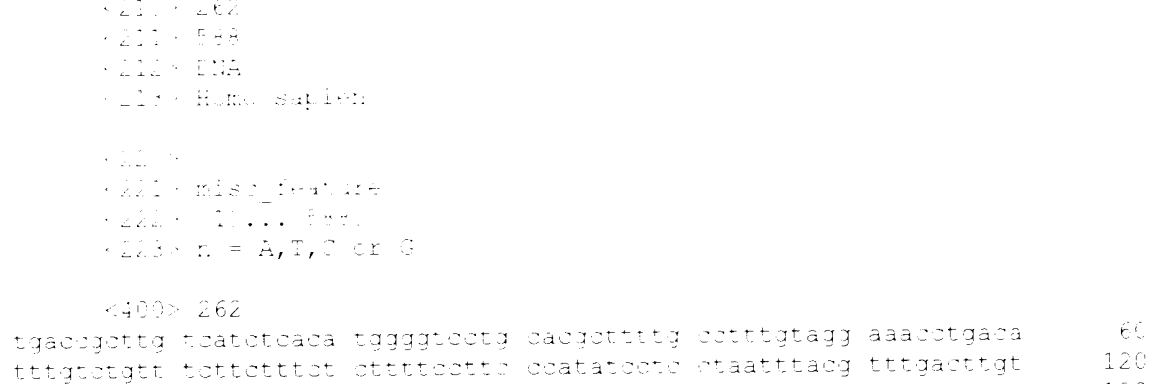
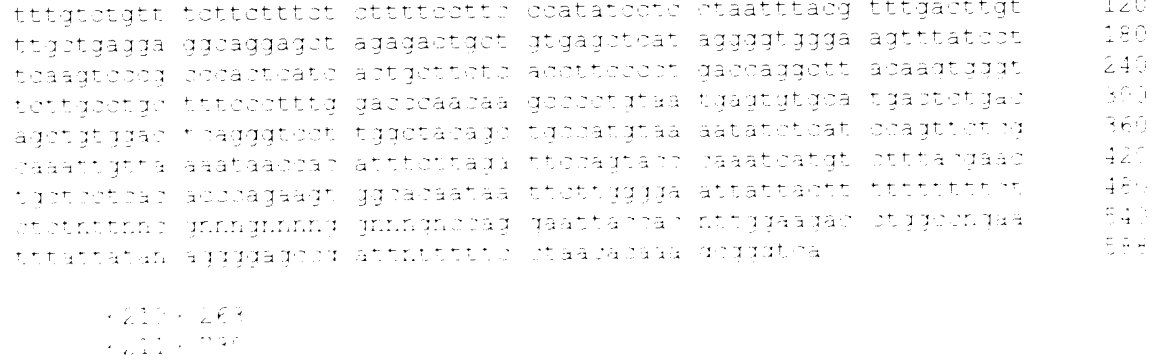
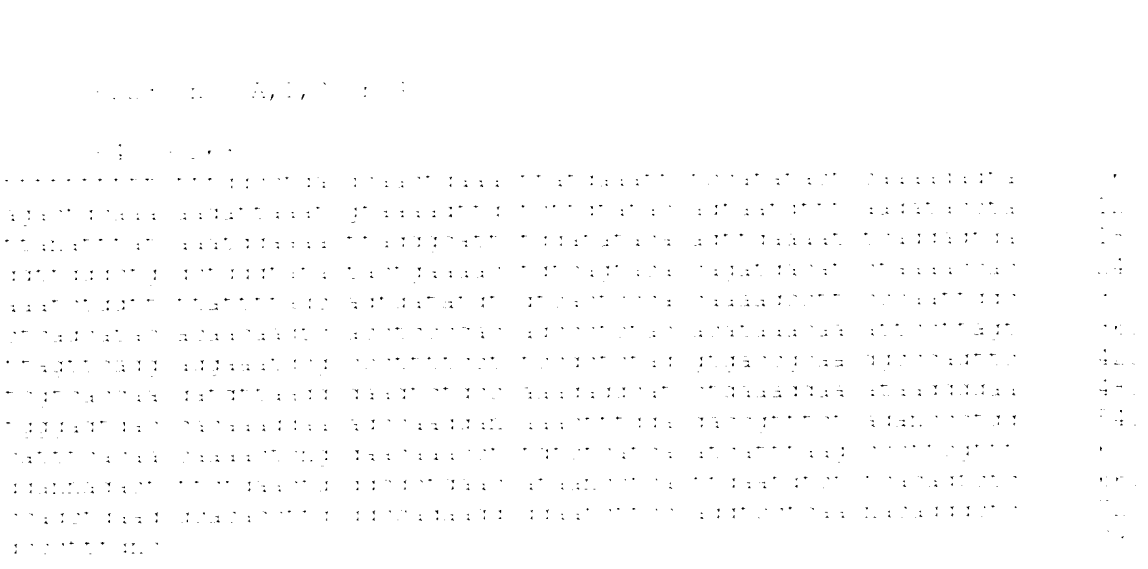
<210> 261

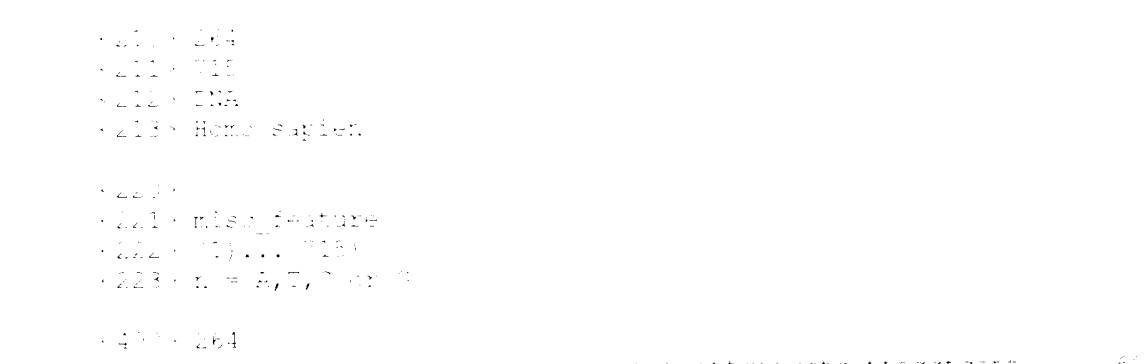


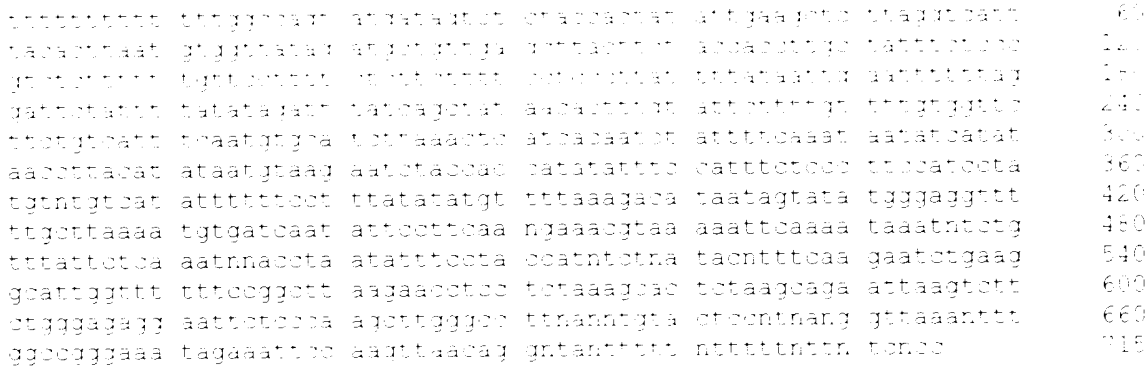


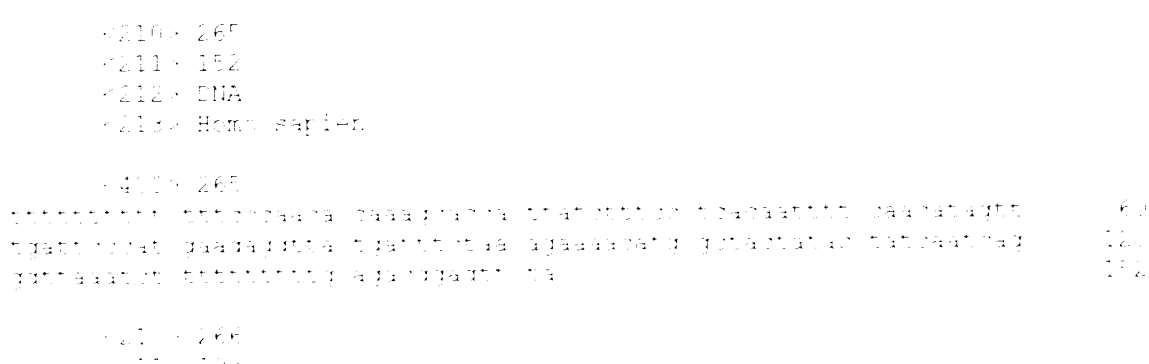












<220>
<221> misc_feature
<222> (1)...(633)
<223> n = A,T,C or G

<400> 265
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acctttgccc gtgggagccc cgagtacgtt tacggcgtcg tcacttagag tacccctcgg 120
acgcacgggc gcgttcgatt tacacggaag gcgagctgca gtggcttgc gccccgggcc 180
aaattcttcg ggtggtttaa ggcgcgcggg aatttgaggt atttctatca gtatgtagcc 240
aaattgggac agtcgccatt ccccgaaatc ctttcttttga atcgcgacgg cctccagcat 300
tgcctcattc atcaacctga agccacgcat aaatgacggt tgtgtcttca tcagctccac 360
tccataacta gcgggcttca tctgttcttc gtacgcttca ggtcgtcacg tttgaatttc 420
caactcgggt tagttgcgca tttcaagttc cgaaagtgtt cgcttccacc atttggcatg 480
ttcaacgcat acacgcgaca aaccacgttc ca gtacgcggaa tttttatcgc ca aca 533

<210> 266
<211> 533
<212> DNA
<213> Homo sapiens

<210> 271
<211> 457
<212> DNA
<213> Homo sapien

<400> 271
tttttttttt tttggtcttt gaccggacat ttaatcctcc antaccggct ggacgtcttg 60
gtaatttttt ttcatgagga ggtgagggtg tcaggcttcg attagttcca ttttttcttg 120
taaaaaaaca atggaaaaac tattttcgcc taattttaagg gtcttaaaaa tgtttttttg 180
aaagagttgt gtccgcgatt tcgtgaggct gaatcagtcc tactagaggt ttcgaaatca 240
attagtgaaa gatgtgtgtt tatttaatgc ctagtagtag aagaatcttc ttgtaaaatat 300
ttaaaaattg actttagaaa aaaatttaaa gtaaaaaaaa tgccttaaat tgcttaaatt 360
gtaaaaattt aaaaaattgg agaatttttg tgtcttcagg ttaaattggt ttaaatgttg 420
ttctctgaag attaagattt taggatgtca atcaaga 457

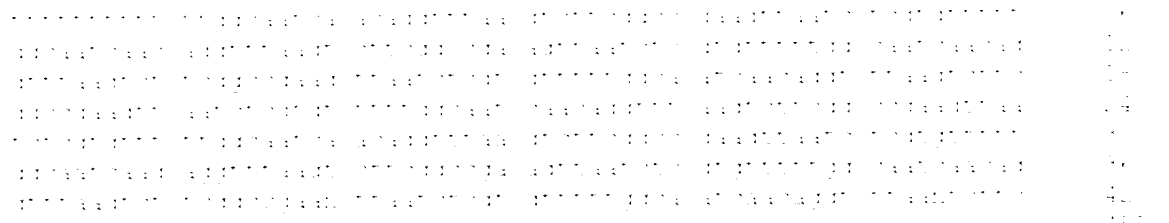
<210> 272
<211> 102
<212> DNA
<213> Homo sapien

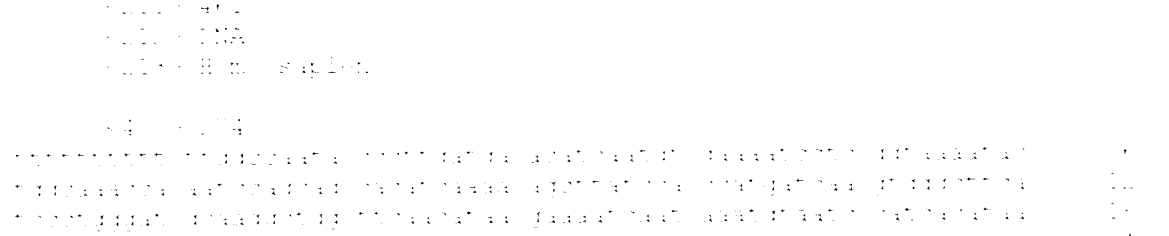
<400> 272
tnttttttttt ttgggtaaca antgaaatac ctttttcaag ctttggcttg ggctcaaatc 60
cgcaggggaa atgtaaattgg ctaggttcaa gggcaattaa ta 102

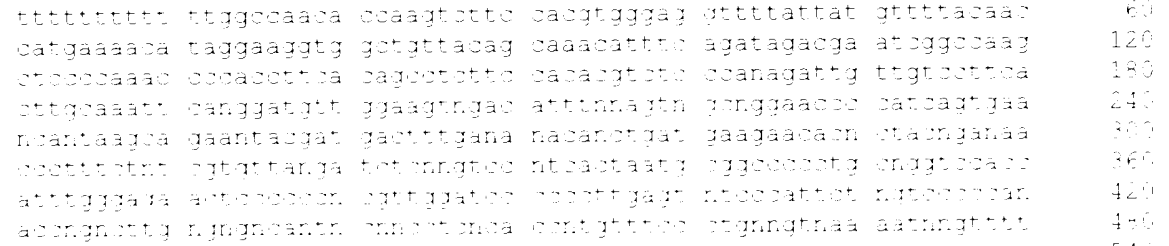
<210> 273
<211> 455
<212> DNA
<213> Homo sapien

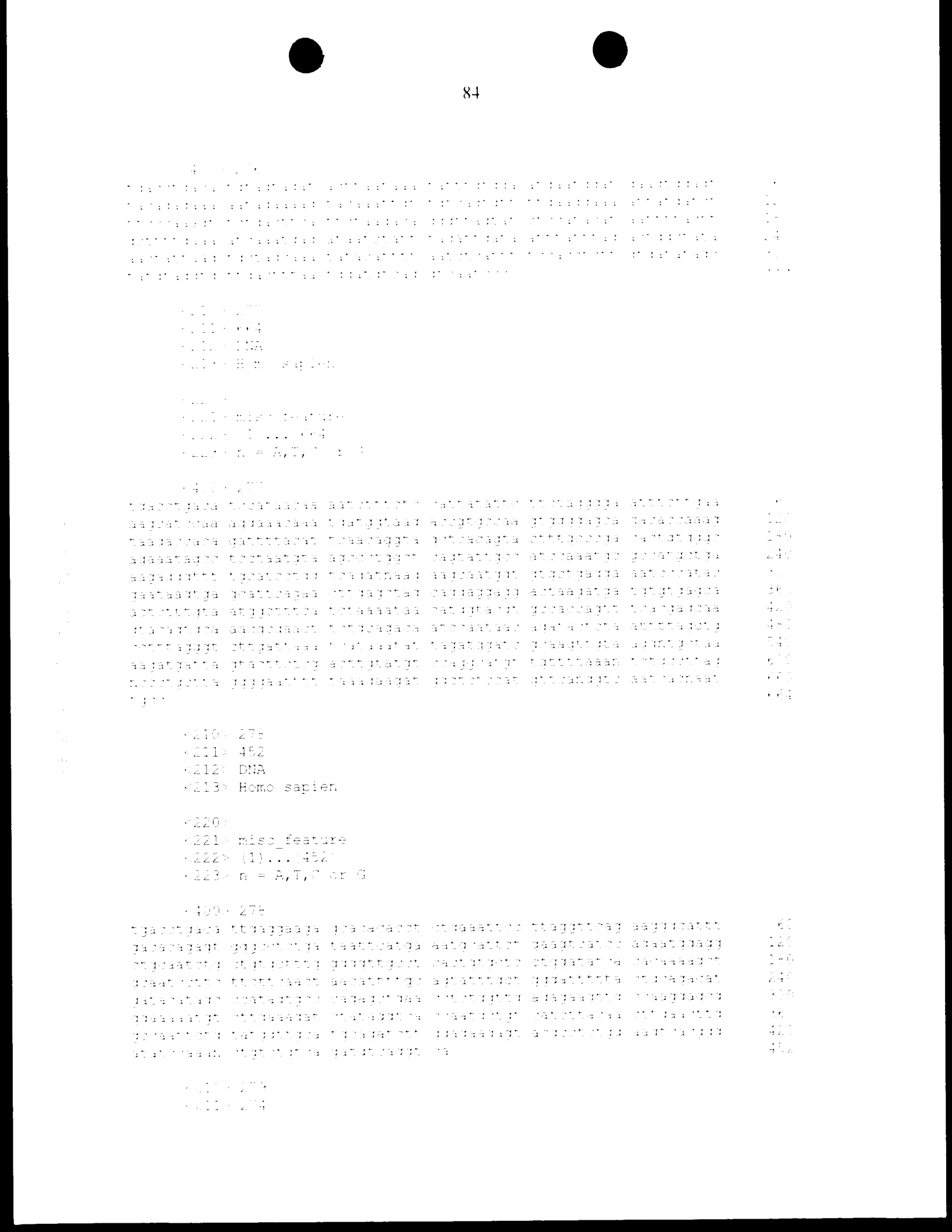
<220>
<221> misc_feature
<222> 1...455
<223> n = A,T,C or G

<400> 273





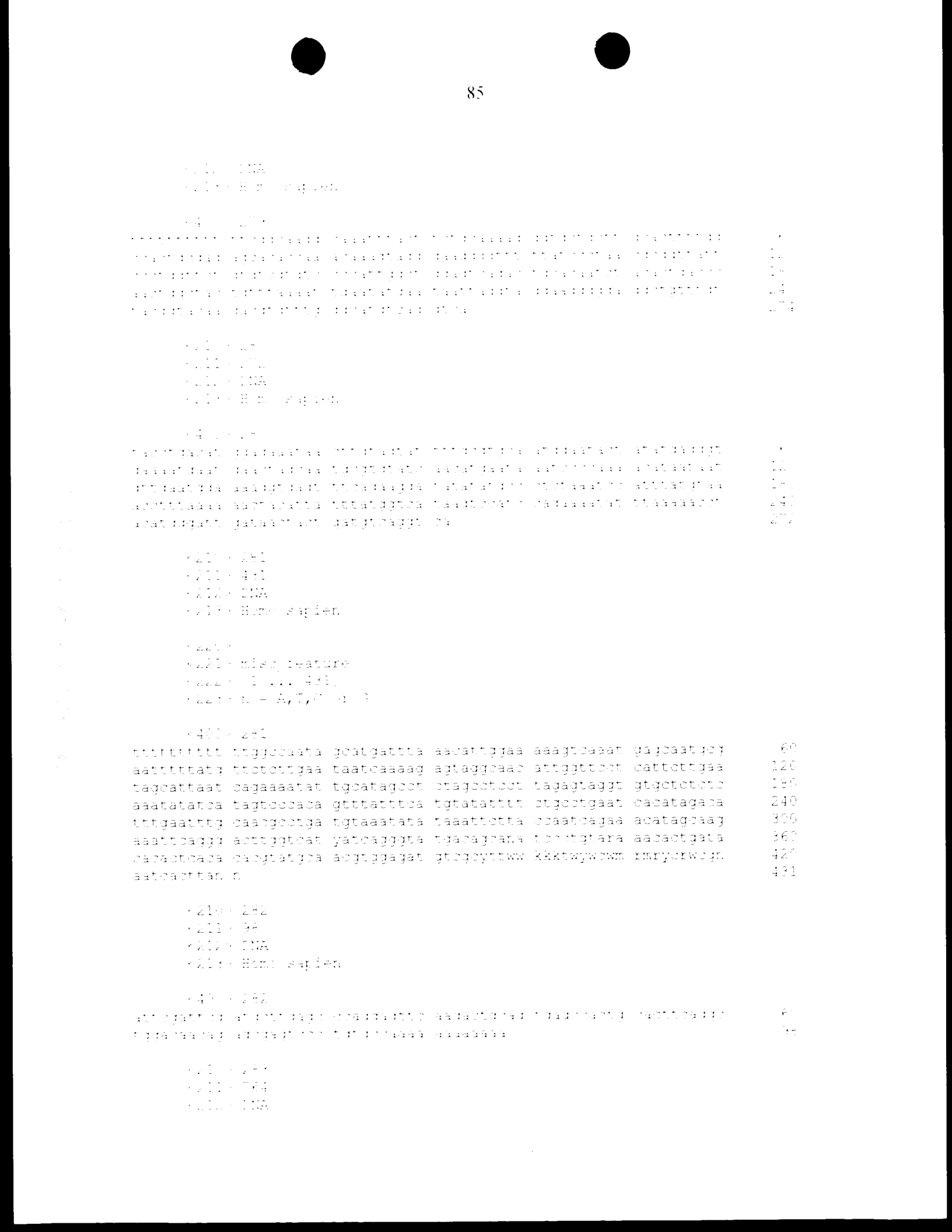




<210> 27
<211> 452
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(452)
<223> n = A,T,C or G

<400> 27



<211> [illegible]

<212> [illegible]
<213> [illegible]

<400> [illegible]
[illegible]

<210> 284
<211> 199
<212> DNA
<213> Homo sapien

<400> 284
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attttgcaaa ttcaaaaaat ttcttttcat jatgattaaa tatcaatttc tttgtaaatt
aaaaaaattg ttttaajata ggtttcattg taattga

<210> 285
<211> 190
<212> DNA
<213> Homo sapien

<400> 285
attcgattgt actcagacaa caatatggta agtggaagaa gtcagtcaca aaagaacaca
tactgtatga cttcatttac attaagtgtc cagaatagga aaatcagtaa agacagaaag
tagatgagaa gttgtttagg tctgagtaca

<210> 286
<211> 213
<212> DNA
<213> Homo sapien

<400> 286
attggatttt ttttttttgj ttaatgatga aattttaatt ttttcagatt ttttgttttj
atcaaattaa gtttaaaaaa cagatttgta attaattaa atttttaatj aattttttga
ttaaattttt ttaatgtaaa tttcaatatt aatatttggt aagtaagga gttttgattt
taagttttta taatttgtaa ttttattttt ttttattta

<211> 1**
<212> DNA
<213> H m sapien

<4 > 1**
a***g*** * t*a***t** a*** a****t*** a*a*a**** t****a**** *** **** ** *
a****a** * a*a**** a*** a**** *** a***** ** **** * a** **
a** ** a** a***a***** * ******** a****a**** a** ** **** **** **
* ** ** a*** * a*** **

<210> 2**
<211> 1**
<212> DNA
<213> H m sapien

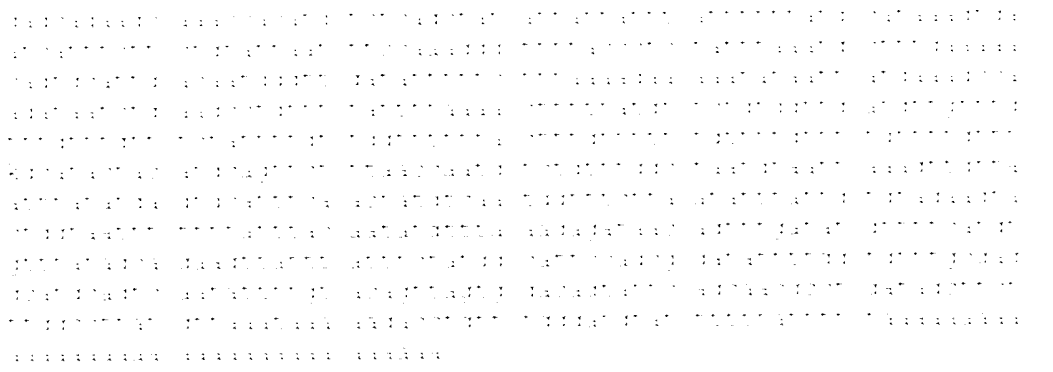
<4** > 2**
a***a**** a** ***a** * *a*a**** a**g*a*** a* a** * ** a* a*a*a** * *
****g** a*** ** * ** a** a***a**** a***a**** a*a**a**** a** a**** ** **
*a*g*a** a** a**** *a** *a**a*** a*a**** g**** a*a**** ** ** **
ca*ag**a* t*g** **a* **

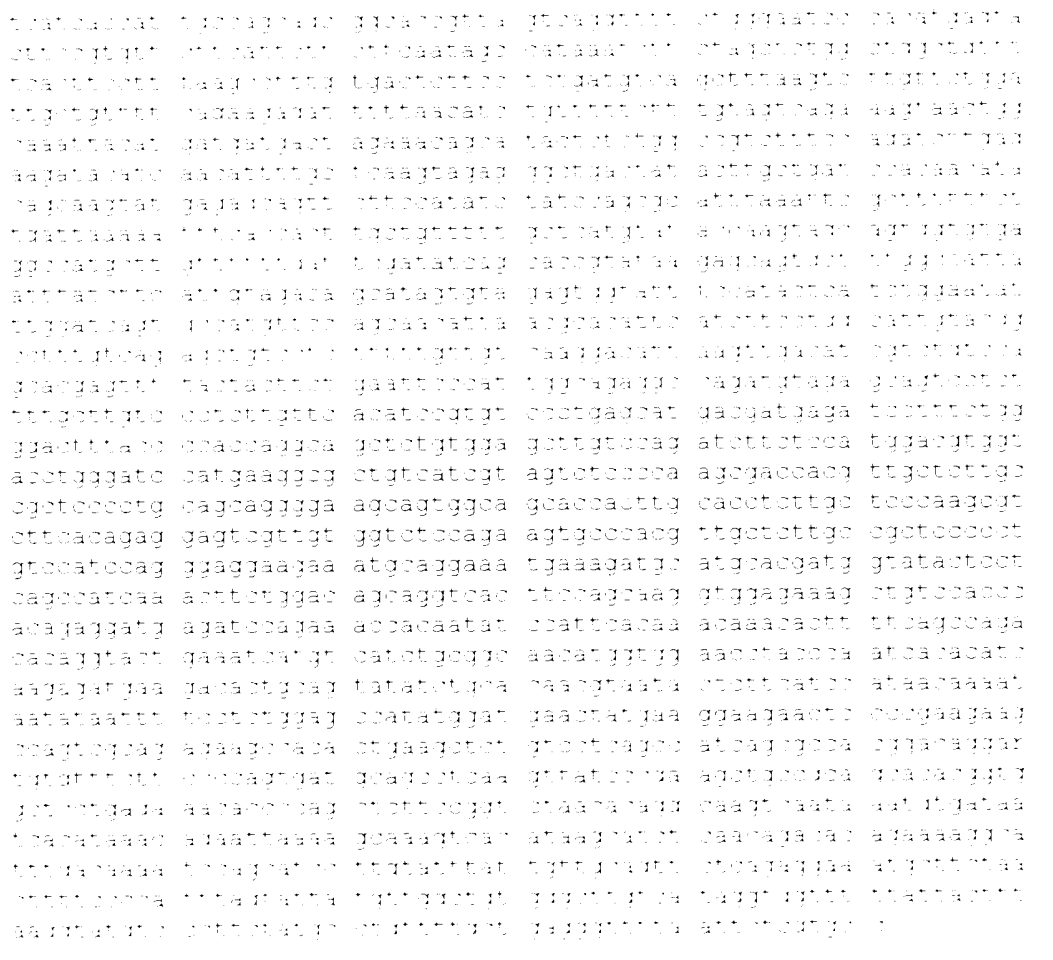
<210> 280
<211> 1462
<212> DNA
<213> Homo sapien

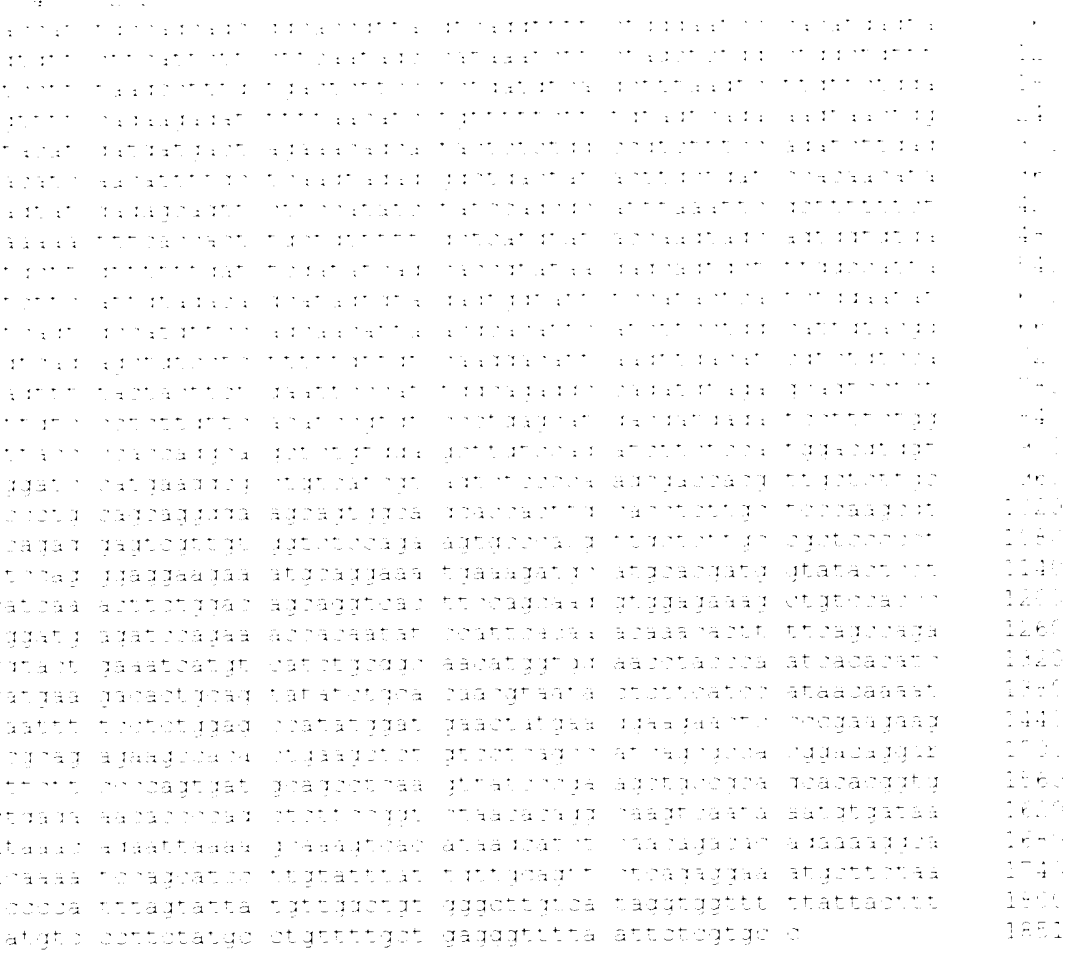
<400> 280
attcgatttt tgaggttata aaattttata gtatgttaat ttaatgaata ttttagtttt 60
tagtaaataa gaaacaaata tcttgtatat tcaaacaatt aa aaagttacag tgaaacttta 120
gtatttataat ttttagtttt atcaatttat atgtggttta tcatgtgtta aaaaaaaaaa 180
aa 182

<210> 290
<211> 1646
<212> DNA
<213> Homo sapien

<400> 290
ggcacgagga gaaaatgtaat tccatatttt atttgaaact tattccatat tttaattgga 60
tattgagtga ttgggttatc aaacacccac aaacttttaat tttgttaaat ttatatgtct 120
ttgaaataga agtataagtt gctacaatt tttgataaca ttgaaagata gtatttttacc 180
atttttaatc atttgggaaa atacaaagtcc tgttaaaaac cacttttta cctagcagca 240
tgaggccaaa agtaaaggct ttaaattata atatatgtga ttcttagtag tatgttttttt 300
tcttgaaaat cagtggcttt atcttaacctt acttatctct tactctttct ttaagaattaa 360
aatctaatct ctttaaaaatc tgccacaacc aattcttagaa gttttgaaaa taatttgtct 420
ttaaatatct tttaatagta atatgtattt tatggacaaa attgacattt tcgaattttt 480
ttttcaaaaa agtcaggtga atttcagcac aatgagttgg gaatttcttta ttcctagaaga 540
ttaacaaatt tcatatttat ttaagatttga ttcatatatc cttttcaaaa gatatatcat 600
gcagtctctt taaaagtaca acaaatactt tcttatttttt tttcacaaatt gtttgattcc 660
agtttaaaat gtaatttaaa aaaaatatag aaaaaatatt ttttagtttt attaagtatg 720
gatcatattt atatattga ttaaaaaaaa tgatttttct tgtatttttt gtaaatttct 780
ttttttaaat tatgtttaaa ttttgtttaa tttttaaaaa aaaaaatata taaaatttgt 840
atatgtgtgt aaaaatttat gtttatatat ttaaaaaaaa aaaaaaaaaa 880

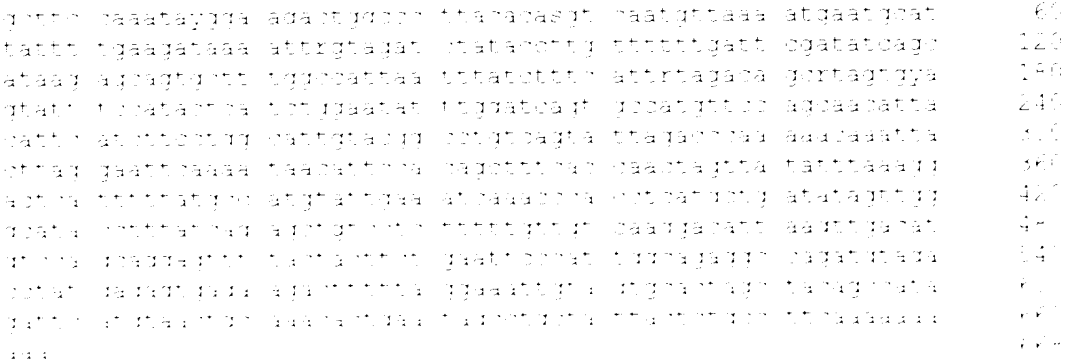






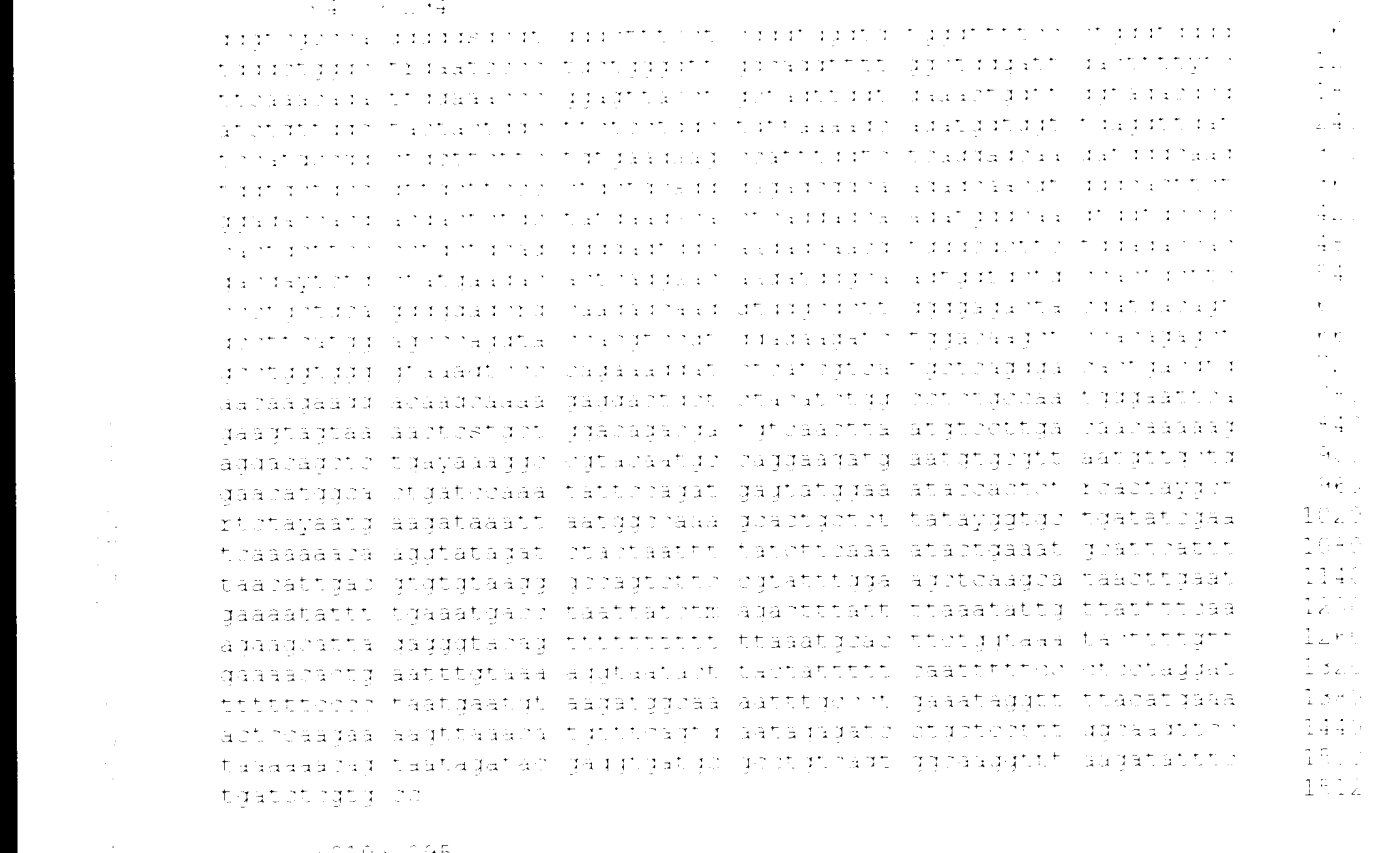
<210> 293
<211> 668
<212> DNA
<213> Homo sapien

<400> 293



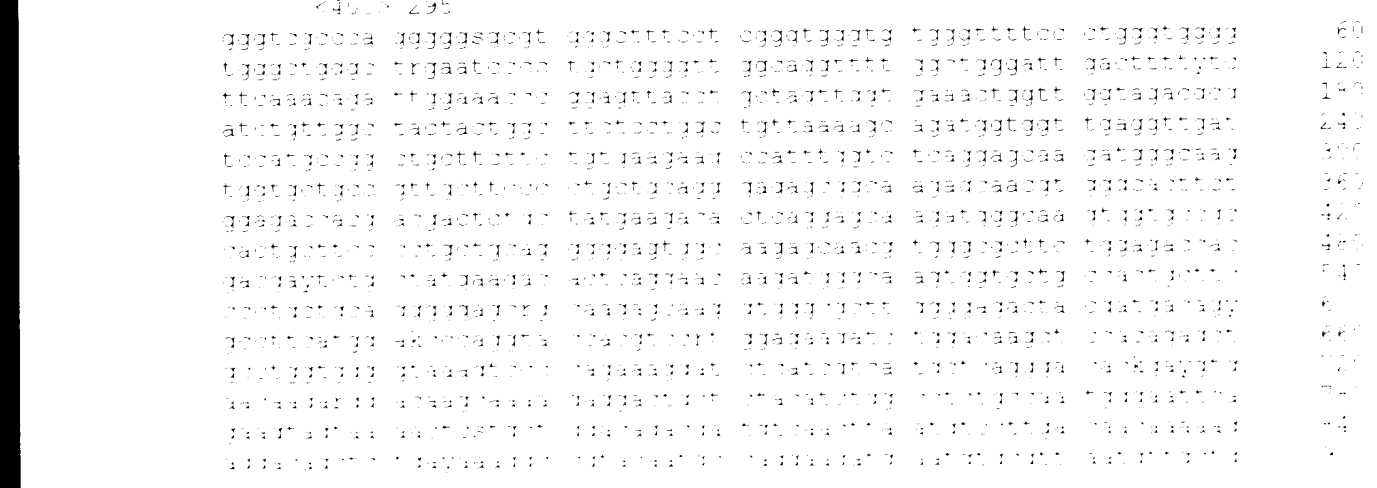
<210> 294
<211> 1852
<212> DNA
<213> Homo sapien

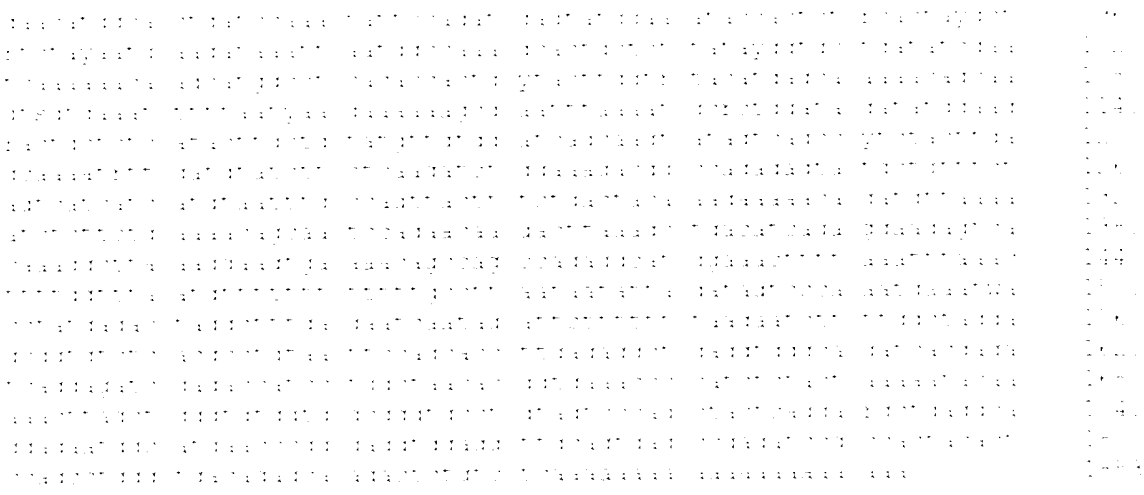
<400> 294

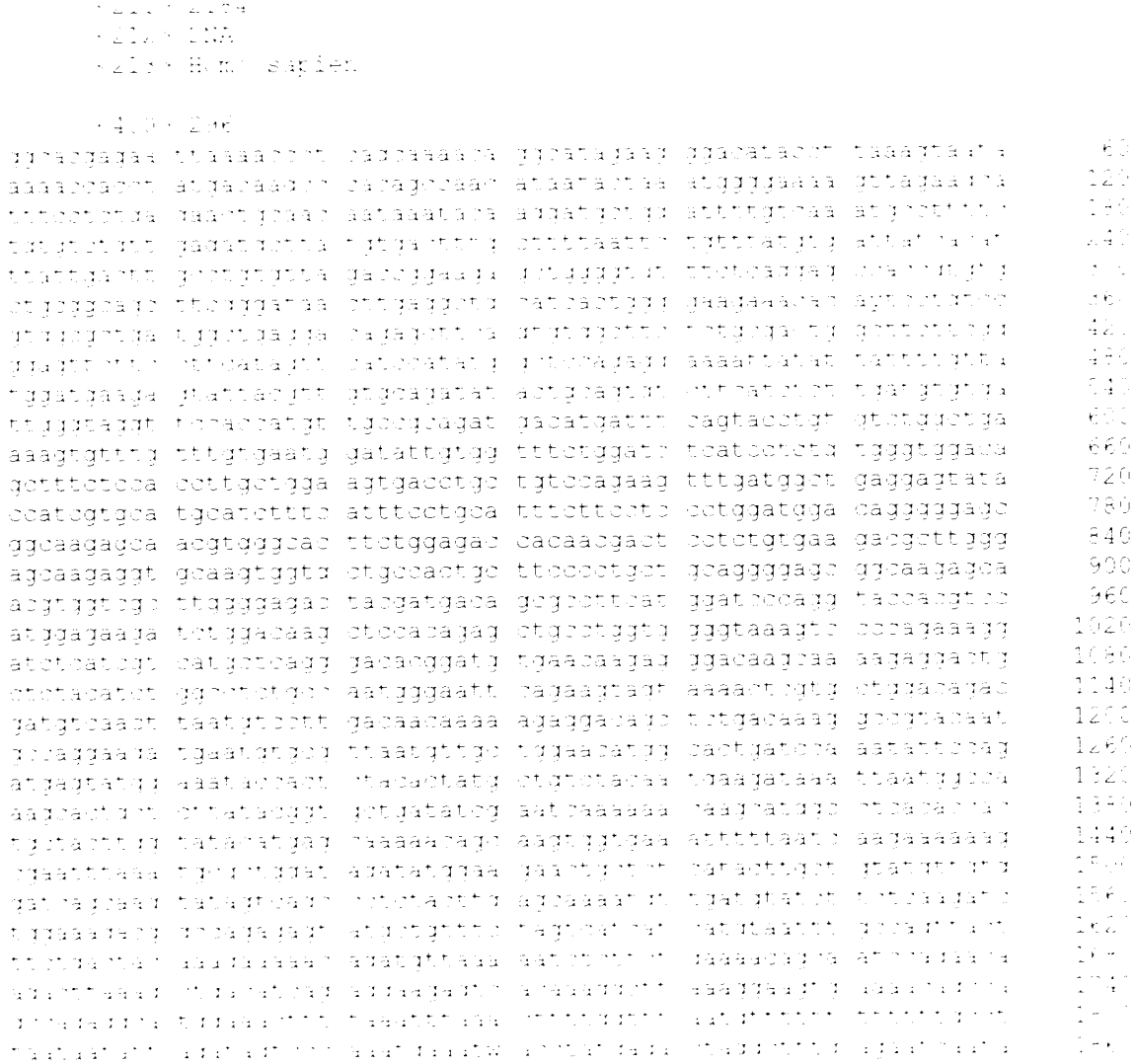


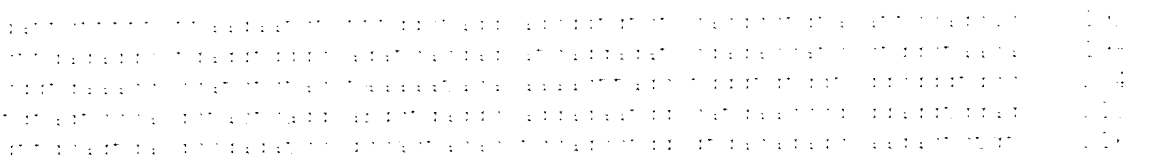
<210> 295
<211> 1853
<212> DNA
<213> Homo sapien

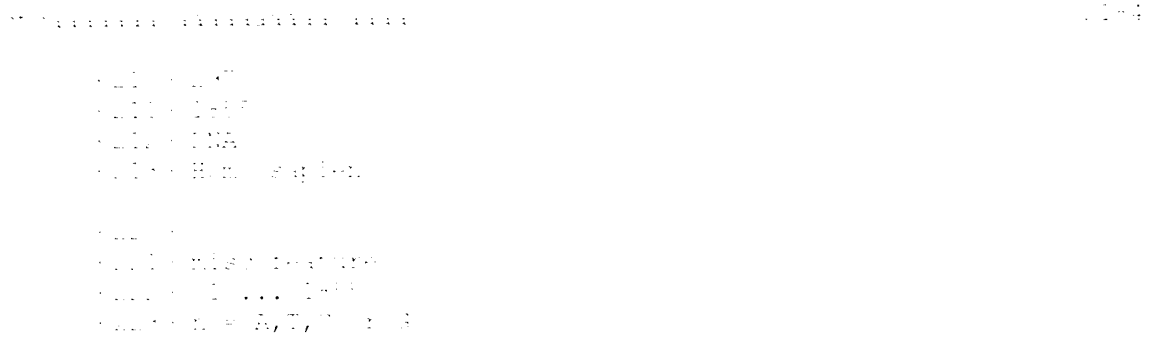
<400> 295











<210> 249
<211> 344
<212> PRT
<213> Homo sapien

<400> 249
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Leu His Leu Ala Gly Ser Asp Leu Leu Ser Arg Ser Leu Met Ala Glu
20 25 30
Glu Tyr Thr Ile Val His Ala Ser Phe Ile Ser Cys Ile Ser Ser Ser
35 40 45
Leu Asp Gly Gln Gly Glu Arg Gln Glu Gln Arg Gly His Phe Trp Arg
50 55 60
Pro Gln Arg Leu Leu Cys Glu Asp Ala Trp Glu Gln Glu Val Gln Val
65 70 75 80
Val Leu Pro Leu Leu Pro Leu Leu Gln Gly Ser Gly Lys Ser Asn Val
85 90 95
Val Ala Trp Gly Asp Tyr Asp Asp Ser Ala Phe Met Asp Pro Arg Tyr
100 105 110
His Val His Gly Glu Asp Leu Asp Lys Leu His Arg Ala Ala Trp Trp
115 120 125
Gly Lys Val Pro Arg Lys Asp Leu Ile Val Met Leu Arg Asp Thr Asp
130 135 140
Val Asn Lys Arg Asp Lys Gln Lys Arg Thr Ala Leu His Leu Ala Ser
145 150 155 160
Ala Asn Gly Asn Ser Glu Val Val Lys Leu Val Leu Asp Arg Arg Cys
165 170 175
Gln Leu Asn Val Leu Asp Asn Lys Lys Arg Thr Ala Leu Thr Lys Ala
180 185 190
Val Gln Cys Gln Glu Asp Glu Cys Ala Leu Met Leu Leu Gln Glu His Gly
195 200 205
Thr Asp Ile Asn Leu Ile Asp Thr Leu Gly Asn Thr Thr Leu His Tyr

Ala Val Tyr Asn Xaa Arg Lys Xaa Met Ala Lys Asn Leu Leu Leu Tyr
Gly Ala Arg Leu Xaa Ser Tyr Asn Lys His Gly Leu Thr Ile Leu Leu
Leu Gly Leu His Xaa Val Lys Thr Glu Val Val Lys Ile Leu Leu Lys
Lys Lys Ala Asn Leu Asn Ala Leu Asp Arg Tyr Gly Arg Thr Ala Leu
Ile Leu Ala Val Lys Lys Gly Met Ala Ser Ile Val Ser Ile Leu Leu
Gly Glu Asn Val Asp Val Ser Ser His Asp Leu Val Arg Arg Ile Gln
Ser Met Leu Leu Glu Leu Val Ile Met

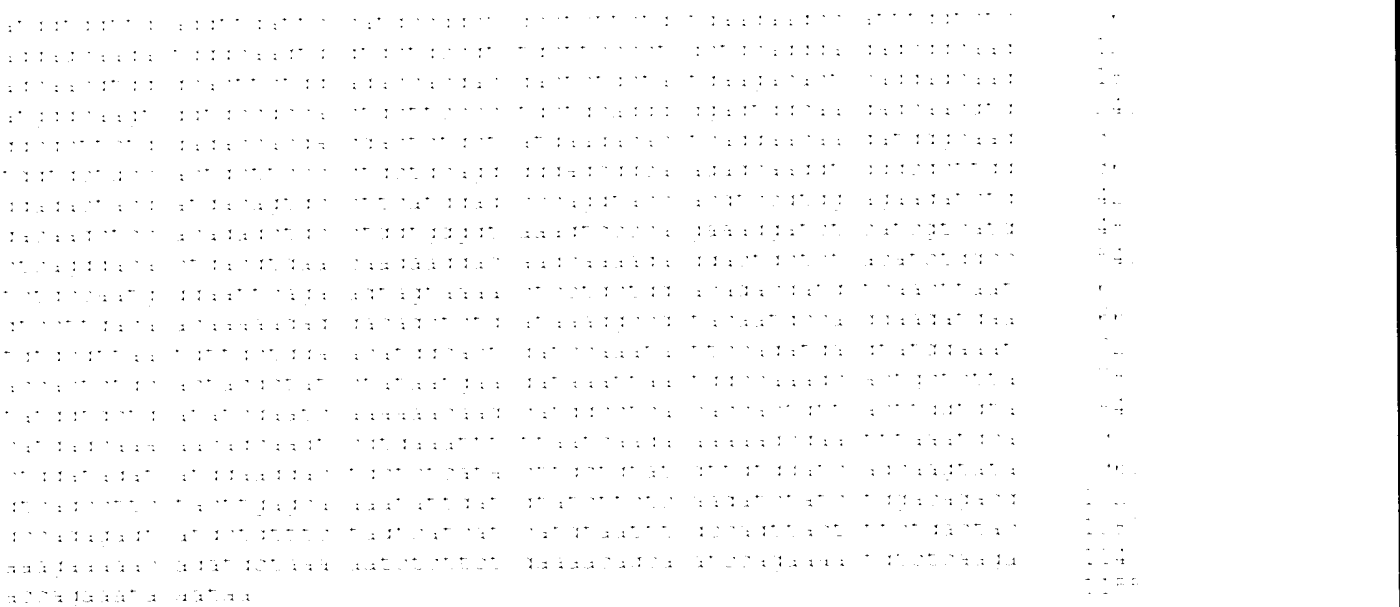
<210> 1
<211> 148
<212> PRT
<213> Homo sapiens

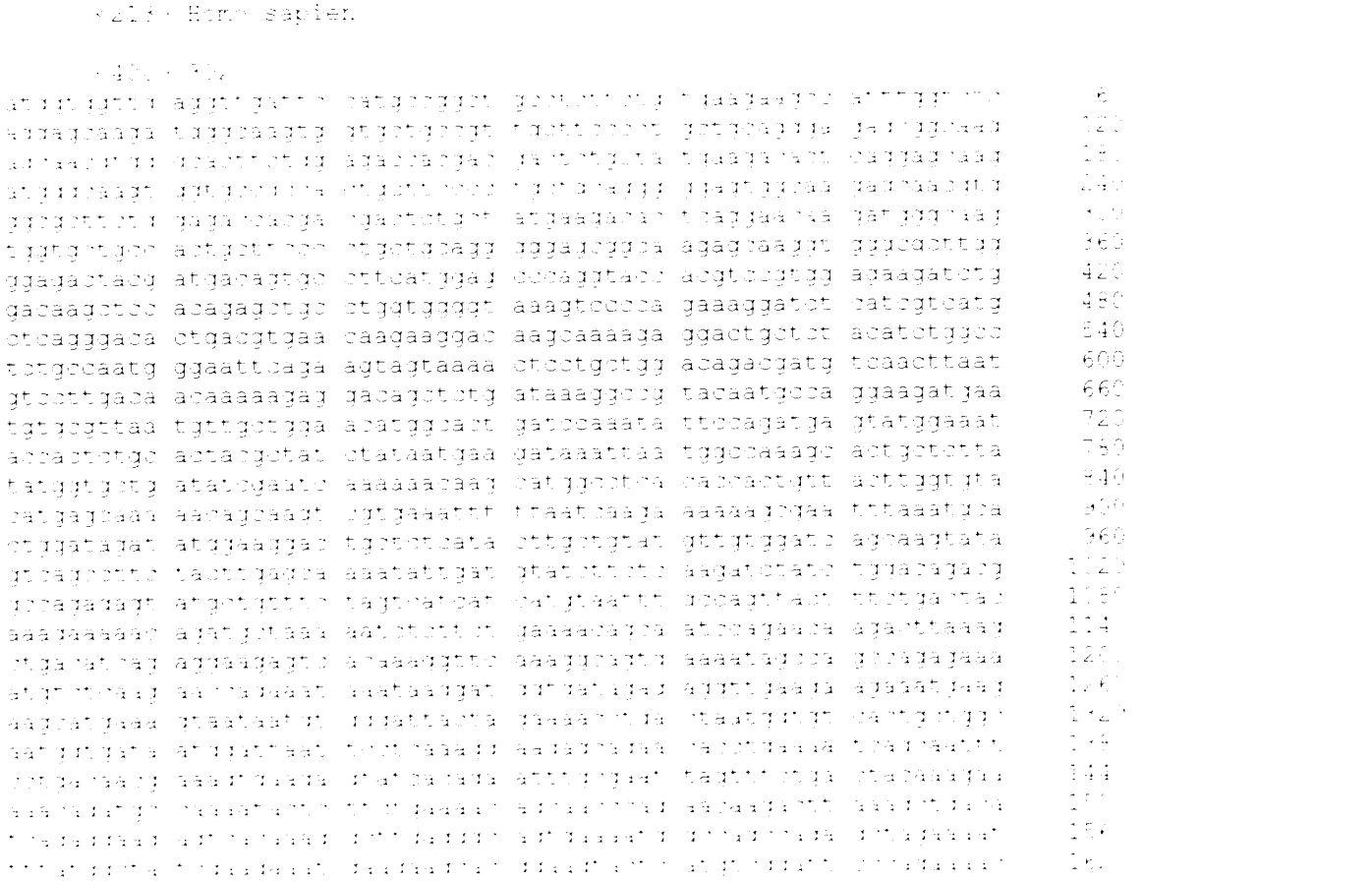
<220>
<221> VARIANT
<222> (1)...(148)
<223> Xaa = Any Amino Acid

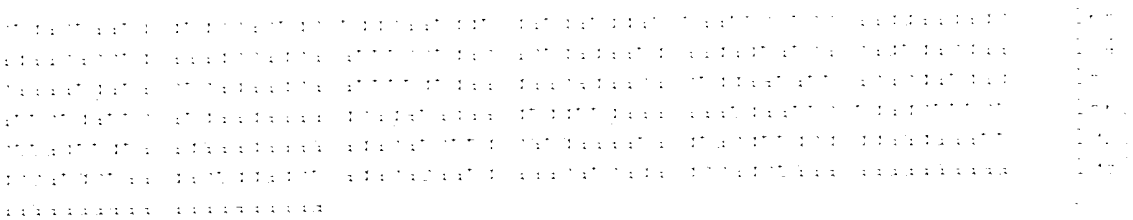
<400> 1
Met Thr Xaa Pro Ser Trp Ser Pro Gly Thr Thr Ser Val Glu Lys Ile
1 5 10 15
Trp Thr Ser Ser Thr Glu Leu Pro Trp Trp Gly Lys Val Pro Arg Lys
20 25 30
Asp Leu Ile Val Met Leu Arg Asp Thr Asp Val Asn Lys Xaa Asp Lys
35 40 45
Gln Lys Arg Thr Ala Leu His Leu Ala Ser Ala Asn Gly Asn Ser Glu
50 55 60
Val Val Lys Leu Xaa Leu Asp Arg Arg Cys Gln Leu Asn Val Leu Asp
65 70 75 80
Asn Lys Lys Arg Thr Ala Leu Xaa Lys Ala Val Gln Cys Gln Glu Asp
85 90 95
Glu Cys Ala Leu Met Leu Leu Glu His Gly Thr Asp Pro Asn Ile Pro
100 105 110
Asp Glu Tyr Gly Asn Thr Thr Leu His Tyr Ala Xaa Tyr Asn Glu Asp
115 120 125
Lys Leu Met Ala Lys Ala Leu Leu Leu Tyr Gly Ala Asp Ile Glu Ser
130 135 140
Lys Asn Lys Val
145

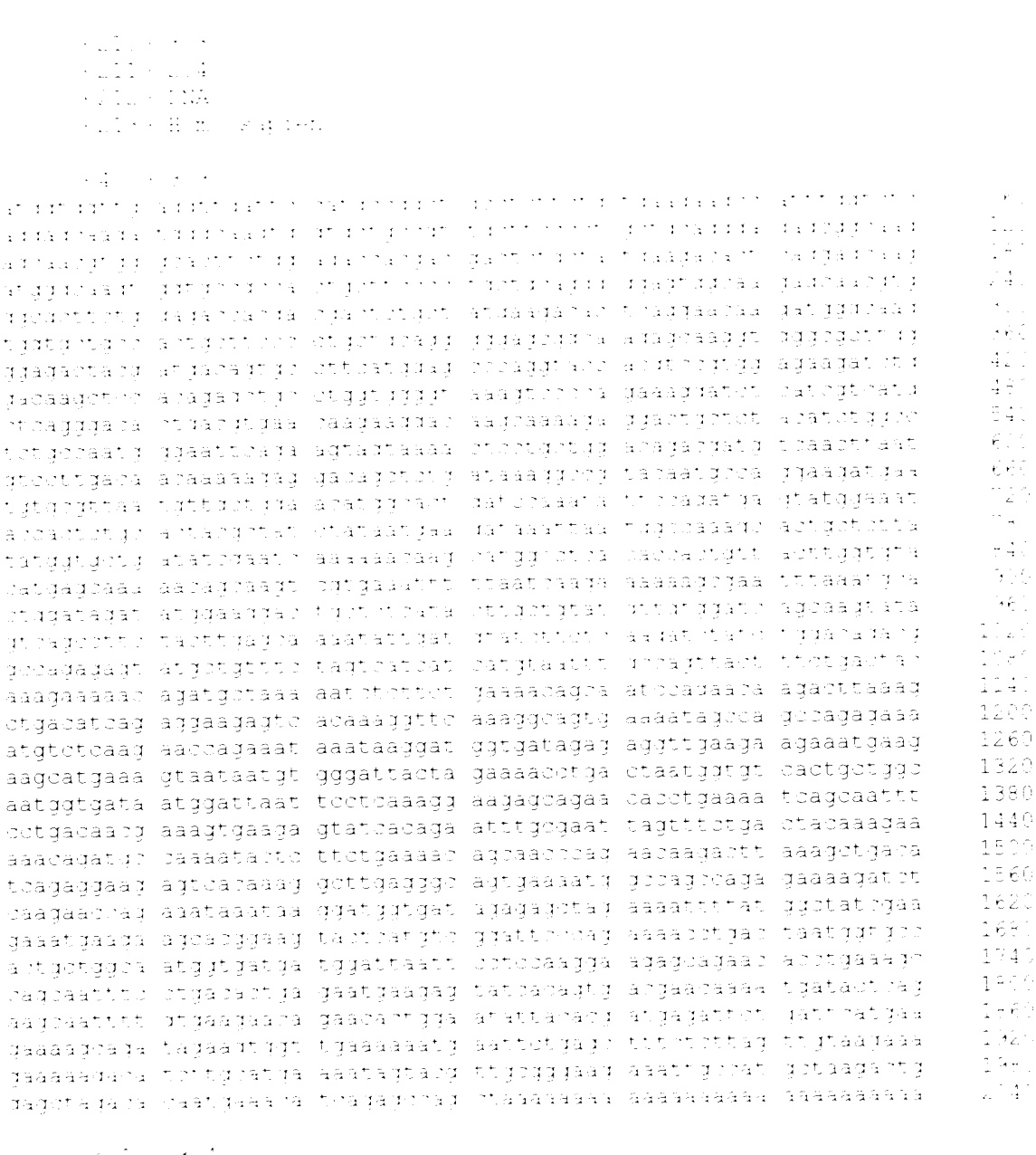
<210> 2
<211> 1164
<212> DNA
<213> Homo sapiens

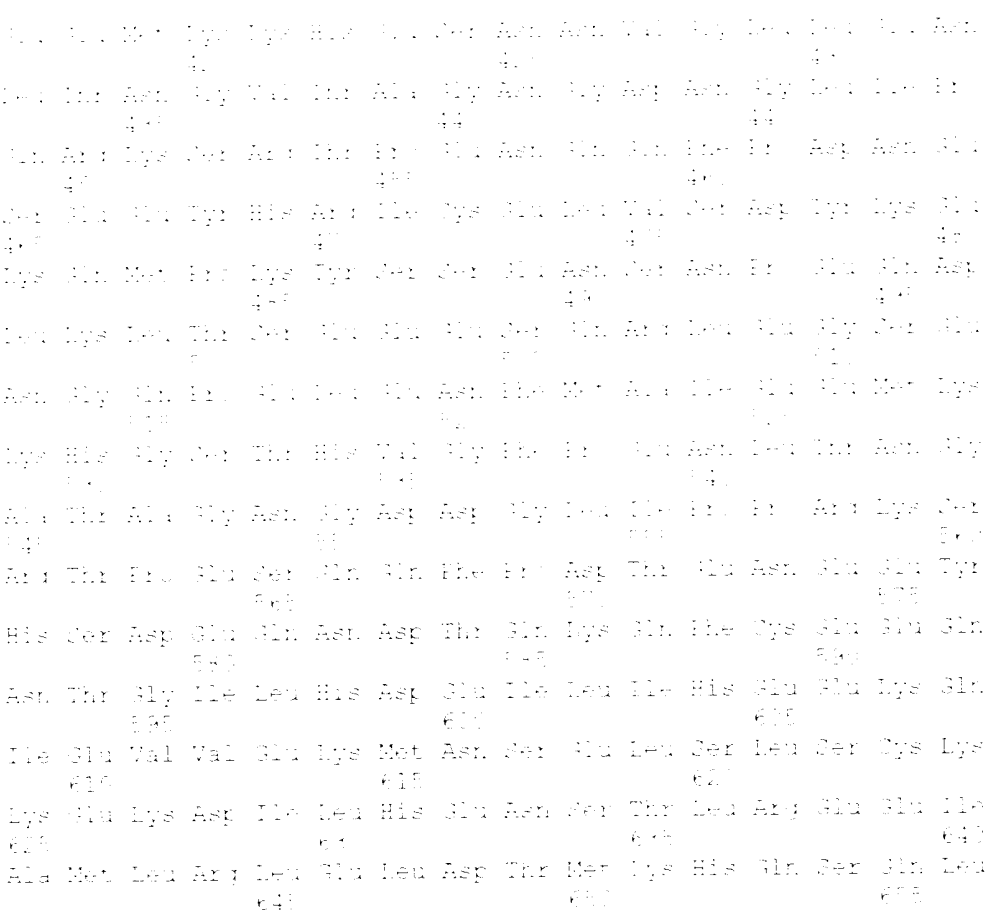
<400> 2











<210> 306
<211> 671
<212> PRT
<213> Homo sapien

<400> 306

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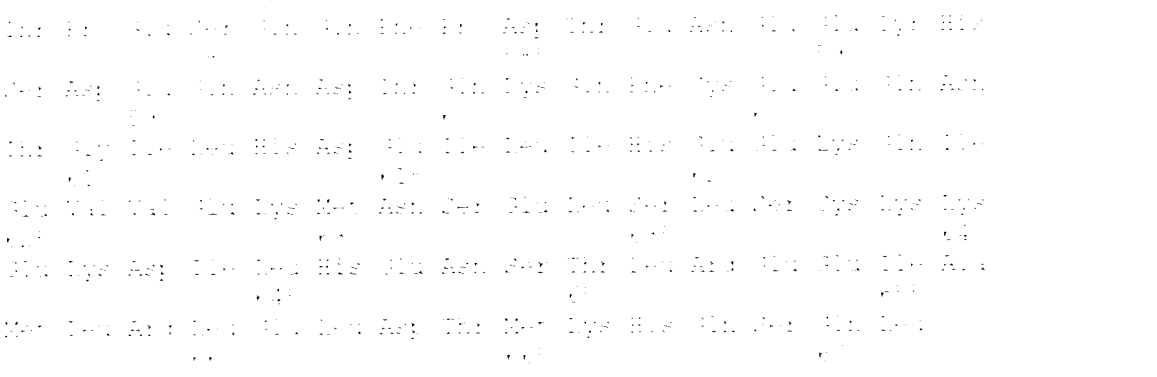
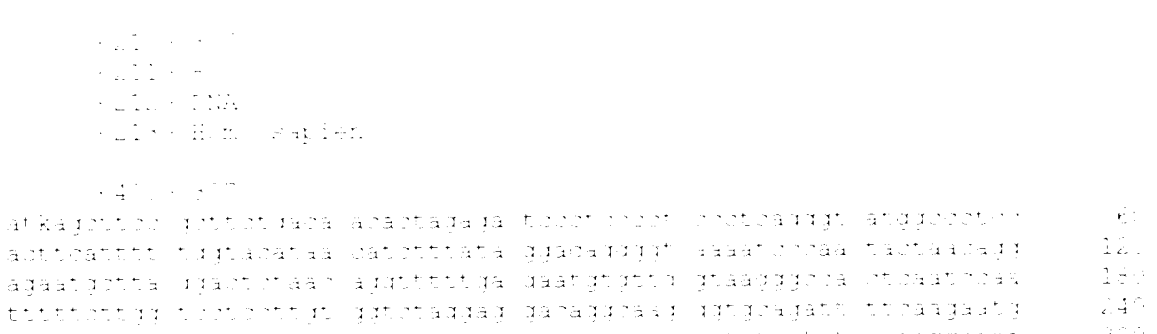
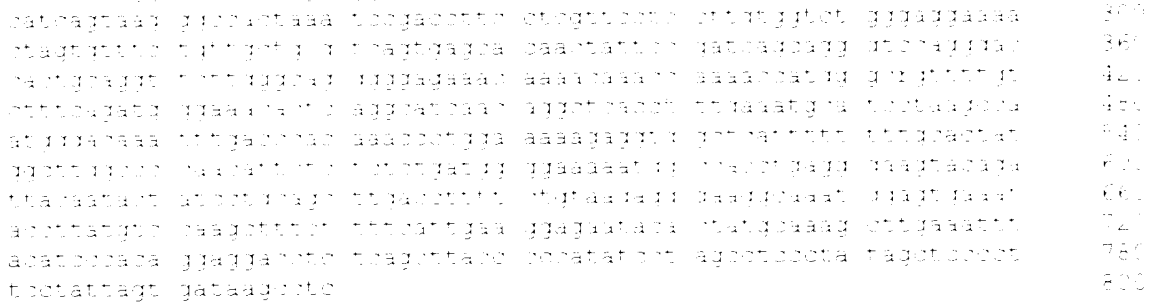
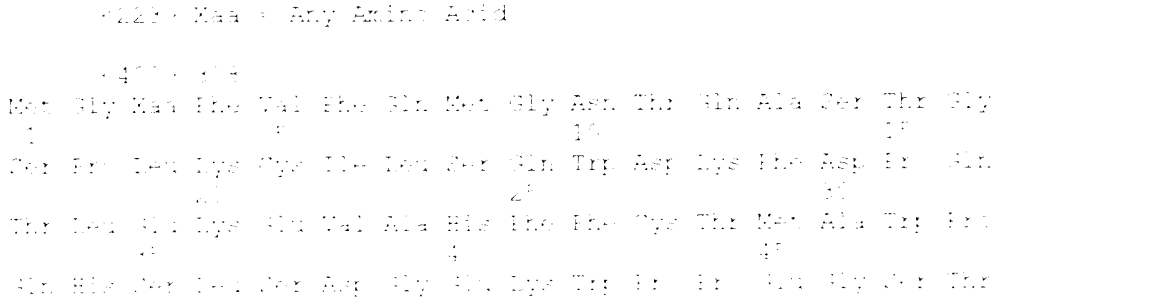
1 5 10 15
Pro Phe Gly Leu Arg Ser Lys Met Gly Lys Trp Cys Cys Arg Cys Phe
20 25 30
Pro Cys Cys Arg Glu Ser Gly Lys Ser Asn Val Gly Thr Ser Gly Asp
35 40 45
His Asp Asp Ser Ala Met Lys Thr Leu Arg Ser Lys Met Gly Lys Trp
50 55 60
Cys Arg His Cys Phe Pro Cys Cys Arg Gly Ser Gly Lys Ser Asn Val
65 70 75 80
Gly Ala Ser Gly Asp His Asp Asp Ser Ala Met Lys Thr Leu Arg Asn
85 90 95
Lys Met Gly Lys Trp Cys Cys His Cys Phe Pro Cys Cys Arg Gly Ser
100 105 110
Gly Lys Ser Lys Val Gly Ala Trp Gly Arg Tyr Asp Asp Ser Ala Phe
115 120 125
Met Gly Pro Arg Tyr His Val Arg Gly Leu Asn Leu Asp Lys Leu His









Asp Tyr Asn Thr Ile Lys Val Met Gln Asp Ile Ile Tyr Thr Leu Arg Ser

Lys Ile Phe Asn Glu Ile Lys Val Asn Ala Ile Asn Ser Leu Glu Thr

Asn Ile Leu Tyr Lys Ala

<210>
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> Made in the lab

<400>
Leu Met Ala Val Thr Tyr Thr Ile Val
1 5

<210> 10
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> Made in the lab

<400> 10
Lys Leu Met Ala Lys Ala Leu Leu Leu
1 5

<210> 11
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> Made in the lab

<400> 11
Gly Leu Thr Pro Leu Leu Leu Gly Ile
1 5

<210> 12
<211> 10
<212> PRT
<213> Artificial Sequence

<220>
<223> Made in the lab

<400> 12
Lys Leu Val Ile Asp Ala Ala Cys Gln Leu
1 5 10

<210> 313
<211> 1852
<212> DNA
<213> Homo sapiens

<400> 313
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aaaattatgt atttatatat tatatatata atatatatat atttttaaaa ttatatattt 120
tttttttata tatttttata aatataatat atttttttat atatatatat atttttttat 180
ttttttttta tatttttata tttatttttt ttttttattt atatttttat atttttttat 240
ttttgtttt ttttttttaa ttttatttt tatttatttt tatatatata ttttttttat 300
ttttttttta ttttttatta tatatttttt ttttttttat ttttttttat ttttttttta 360
ttttttatta ttttttatta tatttttttt ttttttttat ttttttttat ttttttttta 420
ttttttatta ttttttatta tatttttttt ttttttttat ttttttttat ttttttttta 480
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ttttttatta ttttttatta tatttttttt ttttttttat ttttttttat ttttttttta 600
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ttttttatta ttttttatta tatttttttt ttttttttat ttttttttat ttttttttta 720
ttttttatta ttttttatta tatttttttt ttttttttat ttttttttat ttttttttta 780
ttttttatta ttttttatta tatttttttt ttttttttat ttttttttat ttttttttta 840
ttttttatta ttttttatta tatttttttt ttttttttat ttttttttat ttttttttta 900
ttttttatta ttttttatta tatttttttt ttttttttat ttttttttat ttttttttta 960
ttttttatta ttttttatta tatttttttt ttttttttat ttttttttat ttttttttta 1020
ttttttatta ttttttatta tatttttttt ttttttttat ttttttttat ttttttttta 1080
ttttttatta ttttttatta tatttttttt ttttttttat ttttttttat ttttttttta 1140
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ttttttatta ttttttatta tatttttttt ttttttttat ttttttttat ttttttttta 1260
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ttttttatta ttttttatta tatttttttt ttttttttat ttttttttat ttttttttta 1380
ttttttatta ttttttatta tatttttttt ttttttttat ttttttttat ttttttttta 1440
ttttttatta ttttttatta tatttttttt ttttttttat ttttttttat ttttttttta 1500
ttttttatta ttttttatta tatttttttt ttttttttat ttttttttat ttttttttta 1560
ttttttatta ttttttatta tatttttttt ttttttttat ttttttttat ttttttttta 1620
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ttttttatta ttttttatta tatttttttt ttttttttat ttttttttat ttttttttta 1800
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<210> 314
<211> 879
<212> DNA
<213> Homo sapiens

<400> 314
atgtatattt tattttattt attttattat ttattttatg tatttttgat ttttaagatt 60
aaattgggta ttttttgtaa gtaataattt tttttttgtg ttagatgttt tgtgattttt 120
ttttaattgt ttttttattt ttttttttta tttaattttg ttgtttaatt ttaatgtttt 180
ttttgtgtag attaatgatt ttttttttta ttttaattta ttgtttttta ttttttgtat 240
ttttttgttt ttttttttta ttttttttta ttttttttta ttttttttta ttttttttta 300
ttttttttta ttttttttta ttttttttta ttttttttta ttttttttta ttttttttta 360
ttttttttta ttttttttta ttttttttta ttttttttta ttttttttta ttttttttta 420
ttttttttta ttttttttta ttttttttta ttttttttta ttttttttta ttttttttta 480
ttttttttta ttttttttta ttttttttta ttttttttta ttttttttta ttttttttta 540
ttttttttta ttttttttta ttttttttta ttttttttta ttttttttta ttttttttta 600
ttttttttta ttttttttta ttttttttta ttttttttta ttttttttta ttttttttta 660
ttttttttta ttttttttta ttttttttta ttttttttta ttttttttta ttttttttta 720
ttttttttta ttttttttta ttttttttta ttttttttta ttttttttta ttttttttta 780
ttttttttta ttttttttta ttttttttta ttttttttta ttttttttta ttttttttta 840
ttttttttta ttttttttta ttttttttta ttttttttta ttttttttta 879

[illegible]

<210> [illegible]
<211> [illegible]
<212> PRT
<213> Homo sapiens

<400> [illegible]

Met His Leu Ser Pro Pro Ala Phe Leu Pro Pro Trp Met Asp Arg Gly
1   5   10   15

Ser Gly Lys Ser Asn Val Gly Thr Ser Gly Asp His Asn Asp Ser Ser
            20   25   30

Val Lys Thr Leu Gly Ser Lys Arg Cys Lys Trp Cys Cys His Cys Phe
        35   40   45

Pro Cys Cys Arg Gly Ser Gly Lys Ser Asn Val Val Ala Trp Gly Asp
    50   55   60

Tyr Asp Asp Ser Ala Phe Met Asp Pro Arg Tyr His Val His Gly Glu
65   70   75   80

Asp Leu Asp Lys Leu His Arg Ala Ala Trp Trp Gly Lys Val Pro Arg
                85   90   95

Lys Asp Leu Ile Val Met Leu Arg Asp Thr Asp Val Asn Lys Arg Asp
            100   105   110

Lys Gln Lys Arg Thr Ala Leu His Leu Ala Ser Ala Asn Gly Asn Ser
        115   120   125

Glu Val Val Lys Leu Val Leu Asp Arg Arg Cys Gln Leu Asn Val Leu
    130   135   140

Asp Asn Lys Lys Arg Thr Ala Leu Thr Lys Ala Val Gln Cys Gln Glu
145   150   155   160

Asp Glu Cys Ala Leu Met Leu Leu Glu His Gly Thr Asp Pro Asn Ile
                165   170   175

Pro Asp Glu Tyr Gly Asn Thr Thr Leu His Tyr Ala Val Tyr Asn Glu
            180   185   190

Asp Lys Leu Met Ala Lys Ala Leu Leu Leu Tyr Gly Ala Asp Ile Glu
        195   200   205

Ser Lys Asn Lys His Gly Leu Thr Pro Leu Leu Leu Gly Ile His Glu
    210   215   220

[illegible]

<210> 316
<211> 654
<212> DNA
<213> Homo sapiens

<400> 316
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gaggcttatc actaatagga agggcactca tagggagtct atgatatgtg ggtaagctta 180
gaggtcttcc ttgtggtatt aaaattccaa ctttgcatag tgtaattctc ttcaatgaaa 240
atacaagttg gacatagggt attttacttc actttgcttc gttttcaaa aaaaggtcaa 300
gctttaattt aattattgtt ttgtgtactc cttcaggtgt cagttttcct gtatcagagc 360
gagaatgttg tgtcaagtcc atagttcaca aaaaaaaatg agccaacttt tttccaggtg 420
tctgtgcctt aaatttgttc catttgcttg tgatttattt caaaggtgag cctgttgtag 480
tcttgagtgt tccatgtcta aaaaagaaaa tgttcttttt tttgtttttg ttttgttttt 540
ccccgcccca agaaattata aaatcttgag ccaaaaaata aaaa 654

<210> 317
<211> 829
<212> DNA
<213> Homo sapiens

<400> 317
attagcttcc gcttctgaca acactagaga tccctcccct ccctcagggt atggccctcc 60
acttcatttt tggtacattt catctttata ggacagggtt aaaatcccaa tactaacagg 120
agaatgctta ggactctaac aggttttttg gaatgtgttg gtaagggcca ctcaattccaa 180
tctttcttgg tcctcctttt ggtcagtgag gacaggccag ggtgagattt ttcaagaatg 240
tattagtaag gtccactaaa tccgacctta ctcgttccta attgtggtct gggaggaaaa 300
ctaatgtttt tgttggtgtt ttaattgtta caactattcc gatcatacag gtcagggtac 360
tattcagggt tctgggcaag gggagagaaa aaaaaaaacc aaaacaatgg gtagttttgt 420
cctcagagtt ggaaaacatc agggatcaag agggtcagtt ttgaaattca tcctaagtca 480
atgggaagta tttgacccat aaaacctgga aaaagagtgg gttcatttct ttttgtattt 540
gggttgtttg taagatttca tctctgattg gtgaaaatgg ccaatcagtg gaggtgaata 600
ttaagaatat atcctgtaat ttgcgcctct ctgtaagatt taaagtaaat gtagtgaaat 660
agtttatgtc taagcttt tttcatttga ttaggaatag ctatcaaaag ctttaaattt 720
gaatttcaca gtgaaaaaca tcaatatatc ccacatatct gtgtgtgtgt gtgtgtgtgt 780
tcacacacac acacacacac acacacacac acacacacac acacacacac 829

<210> 317
<211> 41
<212> DNA
<213> Artificial Sequence

<220>
<223> PCR primer

<400> 319

ggcctctgcc aatggaaact cacaactagt tcttttctta g 41

<210> 320
<211> 41
<212> DNA
<213> Artificial Sequence

<220>
<223> PCR primer

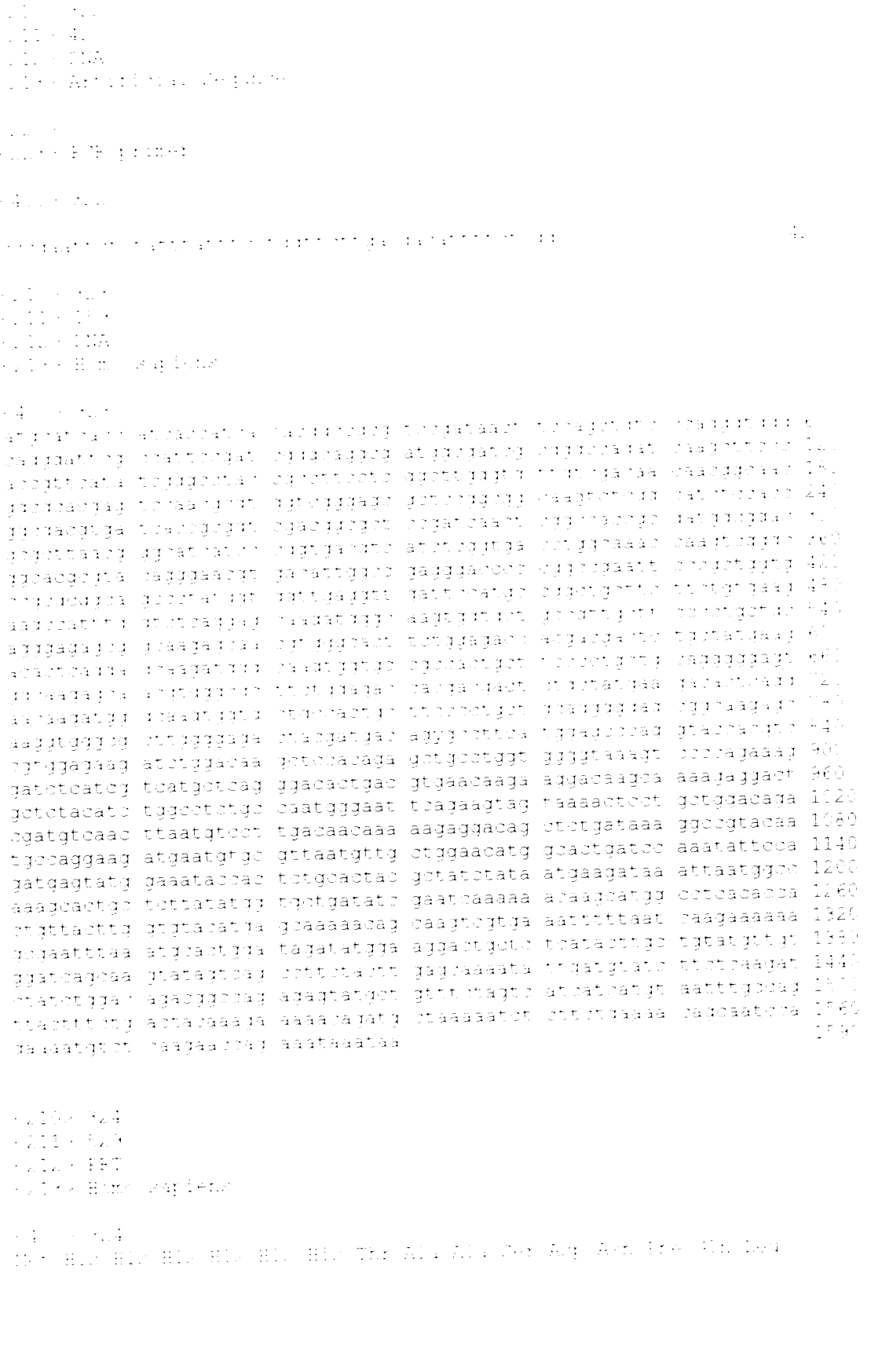
<400> 320

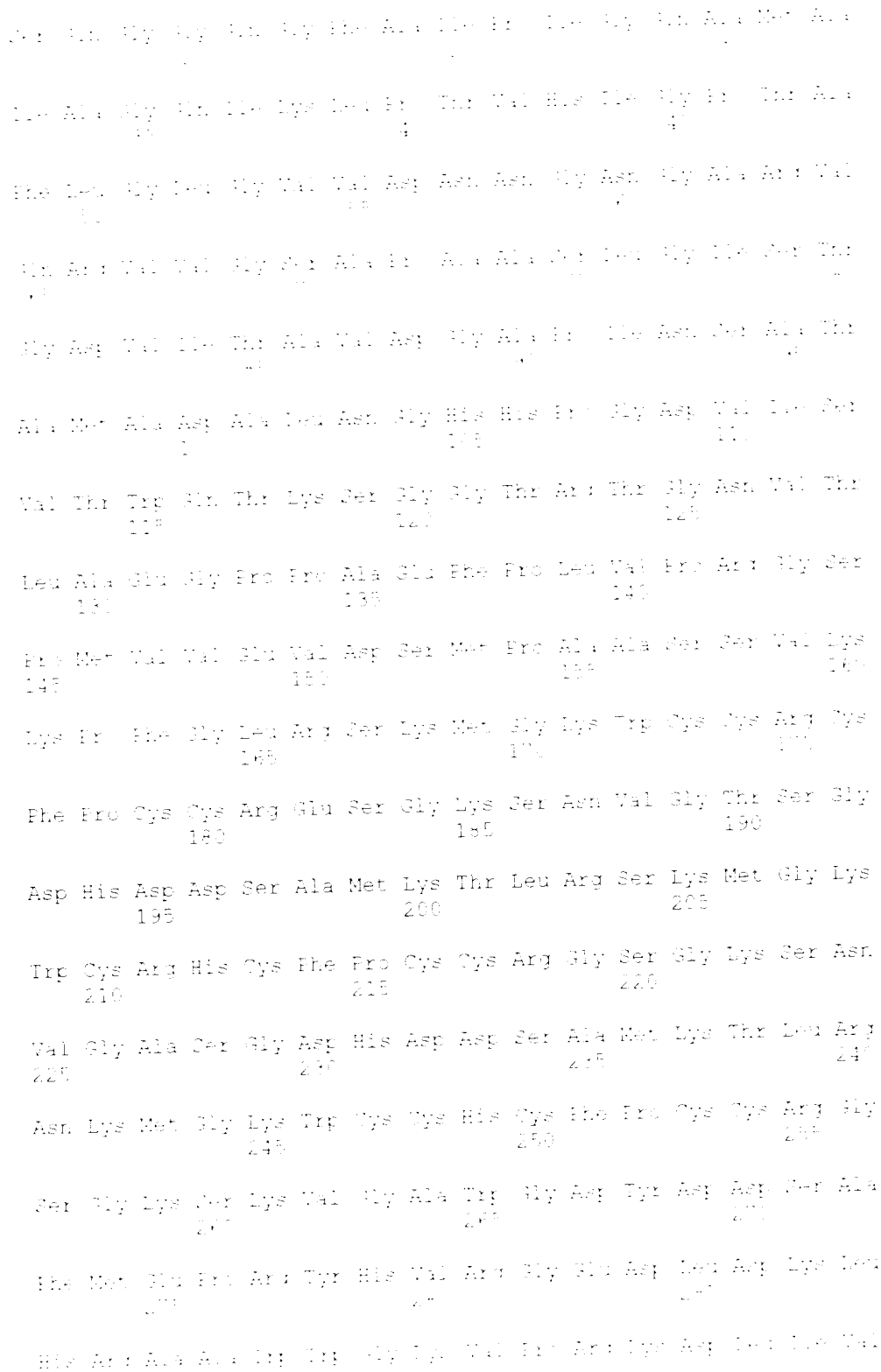
gcaggagttt tactacttct gagttcccat tggcagaggc c 41

<210> 321
<211> 60
<212> DNA
<213> Artificial Sequence

<220>
<223> PCR primer

<400> 321





Met Ile Arg Asp Thr Asp Val Asn Lys Lys Asp Tyr Thr Lys Arg Ile
Ala Leu His Leu Ala Ser Ala Asn Gly Asn Ser Ala Val Val Lys Leu
Leu Leu Asp Arg Arg Thr Leu Asn Val Leu Asp Asn Lys Lys Arg
Thr Ala Leu Ile Lys Ala Val His Tyr Glu His Val Asp Val Tyr Ala Leu
Met Leu Leu Glu His Gly Thr Asp Ile Asn Ile Ile Asp Val Tyr Gly
Asn Thr Thr Leu His Tyr Ala Ile Tyr Asn Glu Asp Lys Leu Met Ala
Lys Ala Leu Leu Leu Tyr Gly Ala Asp Ile Glu Ser Lys Asn Lys His
Gly Leu Thr Pro Leu Leu Leu Gly Val His Glu Gln Lys Gln Gln Val
Val Lys Phe Leu Ile Lys Lys Lys Ala Asn Leu Asn Ala Leu Asp Arg
Tyr Gly Arg Thr Ala Leu Ile Leu Ala Val Cys Cys Gly Ser Ala Ser
Ile Val Ser Leu Leu Leu Glu Gln Asn Ile Asp Val Ser Ser Gln Asp
Leu Ser Gly Gln Thr Ala Arg Glu Tyr Ala Val Ser Ser His His His
Val Ile Cys Gln Leu Leu Ser Asp Tyr Lys Glu Lys Gln Met Leu Lys
Ile Ser Ser Glu Asn Ser Asn Pro Glu Asn Val Ser Arg Thr Arg Asn
Lys

<211> 126
<212> PRT
<213> Homo sapiens

<400> 126
Met Val Ala Ile Val Cys Ser Met Pro Thr Ala Asn Thr Val Lys Lys
1 5 10 15

Ile Phe Asp Leu Arg Met Lys Met Gly Lys Trp Cys His His Arg Phe
20 25 30

Pro Cys Cys Arg Gly Ser Gly Lys Ser Asn Met Gly Thr Ser Gly Asp
35 40 45

His Asp Asp Ser Phe Met Lys Met Leu Arg Ser Lys Met Gly Lys Cys
50 55 60

Cys Arg His Cys Phe Pro Cys Cys Arg Gly Ser Gly Thr Ser Asn Val
65 70 75 80

Gly Thr Ser Gly Asp His Glu Asn Ser Phe Met Lys Met Leu Arg Ser
85 90 95

Lys Met Gly Lys Trp Cys Tyr His Cys Phe Pro Cys Cys Arg Gly Ser
100 105 110

Gly Lys Ser Asn Val Gly Ala Trp Gly Asp Tyr Asp His Ser Ala Phe
115 120 125

Met Ile Ile Arg Tyr His Ile Arg Arg Gln Asp Leu Asp Lys Leu His
130 135 140

Arg Ala Ala Trp Trp Gly Lys Val Ile Arg Asp Ile Asp Ile Val Met

Leu Arg Asp Ile Asp Met Asn Lys Arg Asp Lys Ala Lys Arg Ile Ala
Leu His Leu Ala Ser Ala Asn Gly Asn Ser Ala Val Val Gln Leu Leu
Leu Asp Arg Arg Tyr Gln Leu Asn Val Leu Asp Asn Lys Lys Arg Thr
Ala Leu Ile Lys Ala Ile Gly Tyr Gln Val Asp Gly Lys Val Leu Met
Leu Leu Gln His Gly Ala Asp Arg Asn Leu Gln Asp Ala Tyr Gly Asn
Thr Ala Leu His Tyr Ala Ile Tyr Asn Ala Asp Lys Leu Met Ala Lys
Ala Leu Leu Leu Tyr Gly Ala Asp Ile Glu Ser Lys Asn Lys Val Gly
Leu Thr Pro Leu Leu Leu Gly Val His Glu Gln Lys Gln Gln Val Val
Lys Phe Leu Ile Lys Lys Lys Ala Asn Leu Asn Val Leu Asn Arg Tyr
Gly Arg Thr Ala Leu Ile Leu Ala Val Cys Cys Gly Ser Ala Ser Ile
Val Asn Leu Leu Leu Glu Gln Asn Val Asp Val Ser Ser Gln Asp Leu
Ser Gly Gln Thr Ala Arg Glu Tyr Ala Val Ser Ser His His His Val
Ile Cys Glu Leu Leu Ser Asp Tyr Lys Glu Lys Gln Met Leu Lys Ile
Ser Ser Glu Asn Ser Asn Pro Glu Asn Val Ser Arg Thr Arg Asn Lys